OULUN YLIOPISTO
UNIVERSITY of OULU

OULU BUSINESS SCHOOL

Rebecca Laitinen

REEMPLOYMENT AFTER STRUCTURAL CHANGE IN AN ENTREPRENEURIAL ECOSYSTEM: CAPTURING THE REENGAGEMENT EXPERIENCES OF NOKIA'S EX-EMPLOYEES WITHIN OULU AREA

Master's Thesis
Department of International Business Management
May 2019

UNIVERSITY OF OULU ABSTRACT OF THE MASTER'S THESIS
Oulu Business School

Unit			
Oulu Business School			
Author		Supervisor	
Rebecca Laitinen		Tuija Mainela	
Title			
Reemployment after structural change in an entrepreneurial ecosystem: capturing the reengagement experiences of Nokia's ex-employees within Oulu area			
Subject	Type of the degree	Time of publication	Number of pages
International Business Management	Master of Science	May 2019	71 + 6

Abstract

This thesis looks at reemployment processes and strategies after the annual mass layoffs conducted by Nokia in Oulu, Finland. Most of other existing firms in Oulu were Nokia's stakeholders and that is why the dismissals' effects were so remarkably damaging. The labor market suffered from the oversupply of skilled workers and the city of the increasing rate of unemployment.

Because of the stressful situation that posed great challenges for reemployment, people's other factors than work experience and education proved to be crucial. In this study, the job search behaviors, strategies, and processes of the dismissed Nokia-employees are examined in the context of a sudden structural change. In addition, the development of their job opportunities before, during, and after the structural change are investigated. Primary data from qualitative semi-structured interviews with seven ex-Nokians is combined with secondary data for gathering information.

The main findings from the study show that external, professional assistance contributes considerably for gaining job interviews and offers. Moreover, social networks and get-togethers act as an important information source for informal job leads. The strategy or behavior that an individual decides to choose for one's job search is closely attached to one's personal, characteristic behavior and thus more or less conscious. In addition, the ability and readiness to adapt to the changing demands of the labor market appears to be important for the successful reemployment.

In addition, the study shows that the business landscape has diversified i.e. there are now also many other ICT firms than Nokia. On the other hand, the diversification has created new jobs and thus increased job opportunities but also resulted in expanded job descriptions and thus required the ex-Nokians to supplement their previous education and experience before being able to enter the labor market again. Lastly, the employee loyalty in Oulu is high which means that the employee turnover rate is low. This results in reduced knowledge spillovers and open positions. In conclusion, the economic development could be in danger of slowing down.

The purpose of this thesis is not to provide a guide to a successful reemployment. Rather, the aim is to ignite the discussion on what kinds of tools and services would enhance one's reemployment possibilities during a sudden structural change. The findings give policy-makers and firms good implications and empirical evidence when facing similar circumstances in the future. The thesis introduces the reader to a modern job search where fluctuations and uncertainty are now a standard.

Keywords

entrepreneurial ecosystems, involuntary job loss, knowledge transfer, labor mobility, networks, reemployment, structural change

Additional information

CONTENTS

FIGURES

TABLES

1 INTRODUCTION

Just about two years ago Talouselämä reported in their article that there are currently more open positions in the ICT-field in Oulu than there ever was during Nokia's peak year in 2011 (Mäntylä 2017). Probably the most well-known program that contributed greatly to the reengagement of the laid off employees all over the world was Nokia's Bridge program that was launched in 2011 (Lappalainen 2013). In 2012, Yle reported 70 % of the program participants to be reemployed (Pirskanen 2012). Since then, over 300 startups have been created in Oulu area through the Bridge and even in 2018, Nokia was still offering the opportunity to its employees, who are under the risk of getting laid off, to learn new skills, find a new job within or outside the company, or get support and mentoring for starting their own company (BBC 2018, Nokia 2017, Nokia 2018).

A lot of research has been done on how the ex-employees of the collapsed mobile industry market leader are doing now, but the goal of these studies has mainly been to measure the success and usefulness of the Bridge program through participant surveys and case studies. Moreover, since the program was employed globally, regional effects of it have been vaguely studied. The biggest number of laid off people in Finland was in Oulu (3,750) between 2012 and 2015 and was nearly twice as much compared to Salo region (1,975) that had the second biggest dismissals between 2009 and 2015. These dismissals were performed by Nokia and its stakeholders in both regions. The Oulu region as a study subject is therefore unique, because of the sudden structural change (SSC/ÄRM= äkillinen rakennemuutos) that Nokia's unit's shutdown incited. (Ministry of Economic Affairs and Employment of Finland.)

Sipola deems that the devolution of Nokia began after the introduction of the iPhone in 2007. However, Lindén denotes that the employees had addressed the problems and real potential, or more the lack of it, of Symbian already before the iPhone, in and around 2005−2006. Despite the fact that the quality and imperfections of the operating system were internally recognized before the iPhone was launched, the company continued to develop Symbian until its run down in 2011. (Sipola 2015, Lindén 2016.)

When an existing work unit is terminated and shut down, unemployment has occurred involuntarily (Cai, Giles, & Park 2006). When Nokia's employees were given their notice, they had an option to take a severance plan from the company, take part in the Bridge program, start their own business, and/or enroll as unemployed jobseeker in E-services (=TE-palvelut) (Hakonen, Rönnqvist, & Vartiainen 2015). The presence of hundreds of unemployed peers possessing similar skills, education, and work experience brought its own twist to the job search process of the ex-Nokians (Feldman & Leana 1995).

The goal of this thesis is to study the reemployment process of those who were laid off from Nokia's factory in Oulu after 2011. The study subjects are limited to the employees who were fired after 2011 because that was the time when the group sizes of dismissed employees started to increase notably due to the Symbian ramp down and actions that eventually led to the shutdown of the entire mobile phone unit. The ex-employees' efforts towards work life reengagement amongst the challenges posed by the SSC and its effects on the labor market in Oulu area are being examined through semi-structured qualitative interviews. The themes that will be discussed in the interviews are illustrated in figure 1. They appear frequently in extant regional development literature. Regional development serves as a conceptual umbrella encompassing SSC. Entrepreneurial ecosystems, reemployment processes, and knowledge transferring are the agents in it. The subthemes are social networks and labor mobility. These subthemes seem to be most related to reemployment under an SSC and entrepreneurial ecosystems. The hierarchy of the themes are illustrated in figure 1.

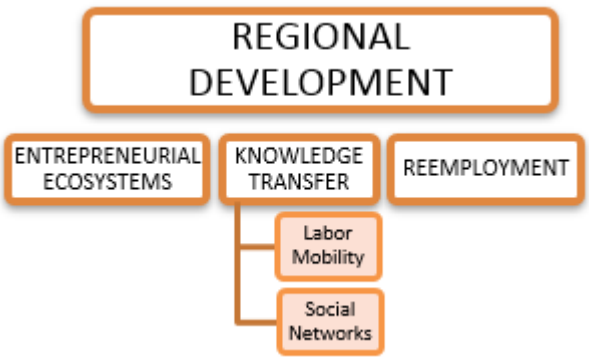

Figure 1. Main themes of the semi-structured interviews

The main question that I am asking is thus what kinds of efforts people do for their reemployment under, during, and after an SSC in Oulu. In addition, I want to learn how the entrepreneurial ecosystem has contributed or affected their employment opportunities. More specifically, what kinds of roles do social networks, labor market mobility, and knowledge flows play in their job search processes and how do all these elements contribute to Oulu region's development.

The theoretical framework of this thesis begins with disentangling the concept of reemployment efforts limiting the focus to the contexts of SSC and mass layoffs. The extant literature on reemployment and unemployment is largely case-specific and focusing on jobseekers' demographic features rather than job search efforts or strategies. I also found that employment research is generally quantitative that draws on surveys or statistical data. Studies on unemployment's mental effects constitutes an exception to this rule. Although individual's characteristics are crucial for explaining, describing, and predicting unemployment, employment, and reemployment alongside psychological dimensions, they are not the focus of this thesis and the internal factors will be thus omitted. Lastly, a notable share of reemployment literature is rather old; mostly from the 1980's and 1990's.

Similar structural changes have occurred e.g. in Waterloo, Canada and Eindhoven in the Netherlands, but the research literature available on those cases is tenuous most likely due to the regions' lower significance to the countries' economies compared to Nokia's impact on the Finnish economy. Furthermore, Nokia's former employees and their reemployment post-Nokia have been widely studied but they, too, are mostly quantitatively conducted for, more or less, statistical purposes (e.g. Hakonen et al. 2015, Sucher & Winterberg 2015, Handelberg, Kiuru, & Rannikko 2016). In other words, these studies' main purpose has been to investigate and report the success of the Bridge program i.e. whether it has been successful in facilitating the reemployment of the dismissed Nokians or not. The results from this thesis' research will thus hopefully supplement the comprehensiveness and the development of the paradigm of structural change because it involves all laid off Nokians regardless of their participation in the Bridge program.

Next, the concept of entrepreneurial ecosystems is defined. The literature of entrepreneurial ecosystems remains still widely atheoretical and tautological with weak causality (e.g. Harrison & Spigel 2017, Autio, Handelberg, Kiuru, & Rannikko 2014, Stam 2015). However, especially Spigel (2017) and Stam (2015) have contributed to the greater understanding of the concept and, moreover, put great effort in visual modeling of which adaptions will be elaborated in section 2.2. Both main concepts i.e. reemployment and entrepreneurial ecosystems are followed by subtitles discussing the social networks, knowledge flows, and labor mobility within these concepts. In addition, entrepreneurial ecosystems' antecedent, cluster, will be briefly visited.

After the theoretical framework, research methods of the study are being introduced. Followed by that, the study results are being presented and analyzed. Lastly, suggestions for future research, discussion, and conclusion will be considered and summarized.

2 SHAPING THE THEORETICAL THEMES

This chapter discusses the theoretical themes of this thesis and begins with presenting and defining reemployment processes and strategies in the context of dismissals. Then, a closer look is taken on the role of knowledge in employment. More specifically, labor mobility and social networks are examined as intermediates of knowledge. Next, the concept of entrepreneurial ecosystems is defined. I will also take a short look at one adjacent concept: clusters. The concept of clusters has a lot of similarities with ecosystems and contains characteristics that are useful for the understanding of the development of Oulu area. Lastly, the role of knowledge in entrepreneurial ecosystems is considered and introduced.

2.1 Reemployment after layoffs

This thesis will focus on the efforts that people conduct for finding a new job after a shutdown of a business unit. In this kind of unique scenario, i.e. an employer shutdown, individuals' other elements are more vital for working life reengagement rather than market-based factors, i.e. education, work experience, and skills. Feldman and Leana (1995) remark that a plant closing renders the labor market abnormal due to a sudden supply of workforce possessing similar talents. Therefore, it would be incorrect to try to predict the success or failure of reemployment based on these kinds of attributes. (Feldman & Leana 1995.) Nevertheless, it would be a false statement that jobseeker's age, gender, and market-based factors in addition to the competition between the various groups of jobseekers and the structure and functionality of the labor market would not affect one's reemployment possibilities (Jolkkonen, Koistinen, & Kurvinen 2012).

2.1.1 Strategies for reemployment

Feldman and Leana name *behavior*, *strategies*, and *coping resources* as elements driving the reemployment endeavors when the cause of unemployment is a plant, unit, or employer closing. The coping resources are for the most part internal, personal traits that help people push themselves out and forward from a stressful

situation, but the concept also comprises e.g. financial support. (Feldman & Leana 1995.) For a *job loser's (JL)* job search process, self-esteem, confident social behavior, and persistence contribute greatly to the outcomes of it (Kanfer, Kantrowitz, & Wanberg 2001). Although psychological dimensions are crucial for explaining, describing, and predicting unemployment, employment, and reemployment, they are not the focus of this thesis and the internal factors will thus be omitted.

Instead, coping strategies signify efforts and are thus at the core of explaining reemployment after mass layoffs. Feldman and Leana recognize two types of coping strategies after job loss: *problem-focused* and *symptom-focused*. The symptom-focused coping strategies encompass the endeavors that an individual does to alleviate the (psychological) symptoms caused by unemployment. These kinds of strategies do not lead to reemployment and will not thus be discussed any further. However, it is important to acknowledge the connection and synergy between these two coping strategies because the problem-focused endeavors might cause extra stress when symptom-focused strategies are needed for relieving the emotional load and consequently avoiding emotional collapses. The problem-focused coping strategies are effective with regards to reemployment. For example, geographical relocation, retraining efforts, gathering information, networking, and contacting employment agencies could improve jobseeker's conception and attainment of available job opportunities. (Feldman & Leana 1995, van Hoye & Saks 2008.)

There are three kinds of distinguished reemployment strategies: *exploratory*, *focused*, and *haphazard*. Jobseekers that use exploratory strategies are open to arising opportunities and dedicated to collect job-related information to increase the odds of finding those chances. Jobseekers who have clear preferences and goals for their working life reengagement use focused strategies. They focus and narrow down their job search to the employers and positions that suit their qualifications, needs, and interests. A less systematic and determined reemployment strategy is the haphazard strategy. A haphazard jobseeker has low and vague standards for the future job, meaning that they might search for work outside their qualifications and switch search and application tactics through trial-and-error. (Crossley & Highhouse 2005, Koen, Klehe, Van Vianen, Zikic, & Nauta 2010.) However, in general, a jobseeker

looking for a new job is likely to start the job search process with a wider and more open-minded strategies for a better opportunity identification abundancy (Blau 1994).

2.1.2 Job search externalities and the theoretical model

Individual job seekers' level of interest towards employment thus varies between finding just about any job and finding a job that is in line with one's qualifications and career plans. In other words, the aim of the reemployment affects one's job search behavior. Moreover, one's *individual factors* such as motivation towards reemployment and up-to-date knowledge of job search and job search skills are *precursors* for the choosing and the success of a strategy. (Koen et al. 2010, Boswell, Swider, & Zimmerman 2012, Van Hooft, van Hoye, & Wanberg 2012.)

For JLs, i.e. people who have been laid off, there are also external factors affecting their job search activity and behavior. This means that some resources and opportunities in the job search process are not controlled by the individual. Labor market demand is an example of a such *boundary condition* predicting job search behavior and the success of it. (Boswell et al. 2012, Van Hooft et al. 2012.) Labor market demand and other boundary conditions such as the transition type and education level are illustrated by dark blue boxes, light blue arrows and an arch indicating the overall impact of different factors on the entire job search process on the left-hand side of figure 2. Transition types are e.g. new entrants (i.e. fresh graduates), job-to-job, and job loss. These indicate the reason behind the entry to the job search process and guide it respectively. (Van Hooft et al. 2012.) Lastly, the education level and type also set a framework for job search behaviors. For example, cold calls or visits at the employee's site might be more characteristics for working class, physical jobs than for jobs requiring a special education (e.g. law enforcements). Other boundary conditions are e.g. occupation type/level, career context, recruiter/interviewer characteristics, and national and organizational culture (Van Hooft et al. 2012).

The yellow box at the top of the figure 2 represents the precursors for job search process. It is placed first in the vertical process line followed by a green box named

job search process because they affect the behavior and endeavors that a jobseeker practices during job search. Furthermore, the precursors have an impact on the employment outcomes hence the subsequent blue box *outcomes* in figure 2. This reciprocal process is highlighted with a purple frame in figure 2 for enhancing their connectedness and for highlighting that the elements outside that circle are either external (like the boundary conditions) or explanatory and elaborative to the all-encompassing job search process.

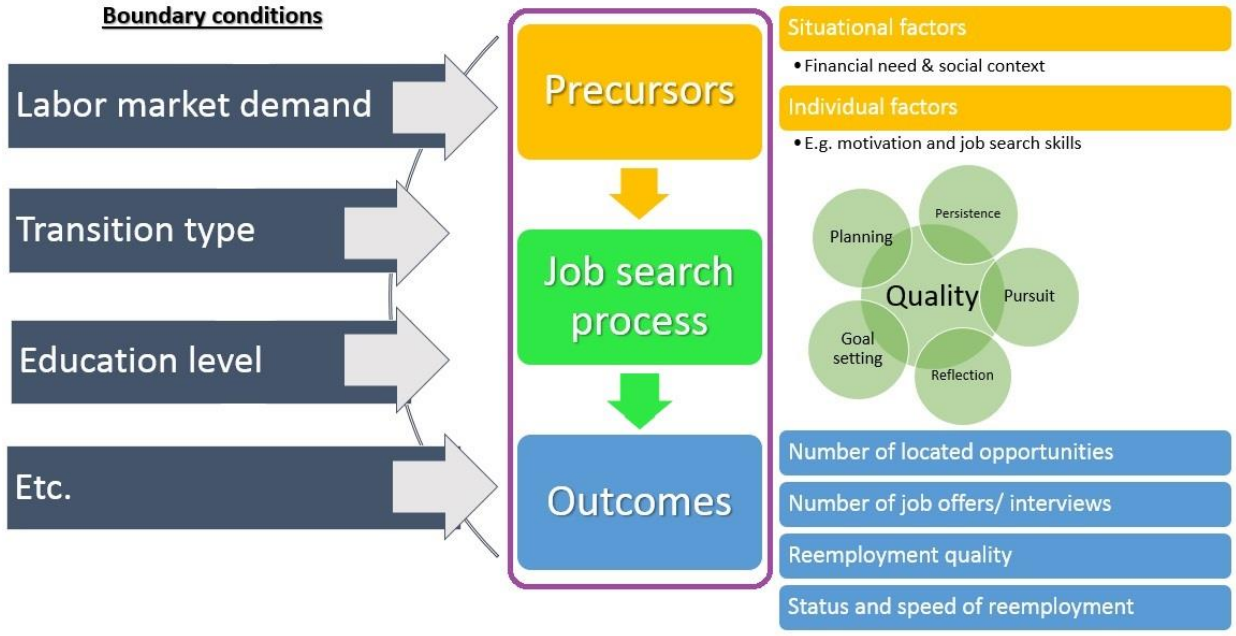

Figure 2. The precursors and outcomes of job search process and their boundary conditions (adapted from Van Hooft et al. 2012: 6 & 25).

2.1.3 Individual and situational factors of job search

Van Hooft et al. (2012) list job search knowledge and skills as two of the precursors for high-quality job search. Knowledge on job search signifies the understanding of the importance of the process elements i.e. the goal imposition, planning, follow-up, and reflection. The authors suggest that the lack of such knowledge lowers the possibility and ability to embrace these activities in one's job search process and reduces the quality and the effectiveness of it. (Van Hooft et al. 2012.) According to Boswell et al. (2012), job search training is especially salient with regards to older JLs' reemployment success, but also for all the JLs regardless of their age because

these interventions provide emotional support which is much needed for sustaining motivation and avoiding negative psychological effects caused by unemployment (Boswell et al. 2012, Koen et al. 2010). Other individual factors that guide the job search behaviors and endeavors are the beforementioned motivational factors, self-regulatory abilities, and job search cognitions. These intend jobseeker's will for finding a new job, ability to stay focused and overcome (especially psychological) obstacles during the job search, awareness and confidence in one's capabilities, and ambitious goals in developing one's career and expertise. (Crossley & Highhouse 2005, Van Hooft et al. 2012.)

Preparing for the forthcoming dismissal affects one's job search strategy, outcomes, and employment quality, and is thus just as important as the activities fulfilled towards reemployment. According to Koen et al. (2010: 128), JL's *career adaptability* i.e. "…individual's ability to face, pursue, or accept changing career roles and to successfully handle career transitions…" contributes to finding a suitable job. These resources and abilities represent a jobseeker's preparation and emotional stability with regards to the approaching unemployment as well. Career adaptability has three dimensions representing activities i.e. *career planning, decision-making, exploration*, and one personality dimension i.e. *confidence*. Confidence stands for self-efficacy and plays an important role in consistent motivation and sustained self-confidence during job search. It contributes to reemployment by e.g. increasing search activities' intensity and lowering the threshold to start them, because one is assertive about finding a job. Self-confidence is a personal trait and therefore will not be defined or discussed any more closely in this thesis. (Koen et al. 2010.)

The *situational factors*, i.e. the financial need and social context, either induce or limit the job search process. Van Hooft et al. (2012) claim that job search driven by financial need leads to haphazard search methods and higher probability of unsatisfactory employment. Social networks, on the other hand, could result in better reemployment quality thanks to the encouragement, support, advice, and connections that they can provide. (Crossley & Highhouse 2005, Van Hooft et al. 2012.) The situational and individual factors are on the right-hand side of precursors' box in the figure 2.

2.1.4 Job search quality and outcomes

Weighing one's options and expectations thus limits and specifies job search activities to those supporting the pursuit towards one's career goals. Career planning is integral especially during career transitions that are followed by e.g. dismissal. Set goals and standards induce the use of focused job search strategy because the desirable employment outcomes are clear and the path towards them has less randomness. Certainty and decisiveness of a jobseeker prevent aimless and unproductive search behavior as well because career targets are distinct. The access to the information of career opportunities and the ability to filter the alternatives that resonate with one's employment endeavors increase one's decision-making (= goal setting in figure 2) and consequently incite the use of focused strategy during the search process. Exploring the options for reemployment could enhance jobseeker's conception of one's wishes for the future career and is thus an important factor in preparing for the upcoming unemployment. The openness to transition to jobs that are contradictory with jobseeker's previous work experience and/or branch nurtures the use of exploratory search strategy namely these kinds of jobseekers are more receptive for job offers and dedicated to increase the odds of finding job opportunities rather than engaging in the pursuit of mere one, specific career. (Crossley & Highhouse 2005, Koen et al. 2010.)

The previously mentioned three kinds of job search strategies, i.e. the exploratory, focused, and haphazard, lead to very different employment outcomes. According to Koen et al. (2010), there is a negative connection between exploratory and haphazard strategies and the quality of reemployment. On the other hand, they conclude that the chosen strategy is "…mainly a function of job-seekers' preparation and mental readiness to seek reemployment." (Koen et al. 2010: 137). In other words, there are other factors contributing to the quality of employment. The elements that affect the quality of job search process, i.e. satisfactory or successful employment, are *persistence*, *pursuit*, *reflection*, *goal setting*, and *planning*. These elements are illustrated on the right-hand side of the green box named job search process in the figure 2. They are the explanatory attributes to job search process' quality and are presented as smaller green bubbles that intersect the central bubble named quality.

Successful job seeking and employment is advanced by *effort* and *intensity* especially at a time when unemployment rate is high (Boswell et al. 2012, Fugate, Kinicki, & Prussia 2001, Wanberg 2012). Moreover, the quality of these activities improves the odds of job offers and consequently finding a job that also equates with applicant's aspirations. Job search quality stands for e.g. looking from the right places and writing robust applications. (Van Hooft et al. 2012.) Boswell et al. (2012: 130) define the job search effort as "…the general energy and persistence that the job searcher exhibits when seeking employment" and intensity as representing the frequency of job search preparations (= 'planning' in the figure 2) and activities (= 'pursuit' in the figure 2). Preparations comprise e.g. revising CV and browsing for job openings whereas activities are concrete actions that one takes towards employment i.e. writing applications and attending interviews. The intensity of job search is particularly salient in attaining reemployment in the context of layoffs. High intensity contributes to the number of job interviews and/or offers. Nevertheless, a higher job search activity does not necessarily result in satisfied employment. (Boswell et al. 2012.) In other words, the quality of job search decays because e.g. attention is paid to the number of applications written rather than the strength and quality of the application. However, the longer the duration of the job search, i.e. how persistent one is, the better the conception of the process and the success of it is. Therefore, persistence after dismissal could pay off especially for the older JLs because they might be alienated from the modern job search due to long-term working life commitment. (Boswell et al. 2012.)

Lastly, Van Hooft et al. (2012: 9) propose that "…reflection should result in optimizing one's goals, planning, and behavior, and improving the adjustment to the demands and expectations of the labor market.". In other words, reflection stands for analyzing one's own job search behavior and whether it has helped or obstructed achieving the set goals. This kind of revision is important because personal and professional learning and performance development is not possible without external feedback on one's job search strategies. (Van Hooft et al. 2012.) Therefore, reflection is an integral agent of reemployment quality because comparing one's job search activities and behavior with the achieved outcomes might reveal the reasons behind prolonged unemployment.

Thus, the job search outcomes are dependent on jobseeker's behavior and activity. These outcomes are illustrated on the right-hand side of the blue box named outcomes in the figure 2 and embody as previously discussed quality of reemployment, number of located opportunities that fit one's job aspirations, number of job offers and interviews, and status and speed of reemployment. Thus, there are quantitative and qualitative employment outcomes. The number of job interviews, offers, and leads, i.e. located opportunities, are considered outcomes that occur during the job search, i.e. they are proximal, and the rest are referred to as distal employment outcomes. (Van Hooft et al. 2012.) According to Van Hooft et al. (2012), the quality of job search contributes to both, proximal and distal, outcomes.

Next section scrutinizes the role of knowledge in the job search process from the perspective of social networks and labor mobility because they can mediate reemployment in especially JL's case (Van Hoye & Saks 2008, Leana & Feldman 1995).

2.1.5 The role of knowledge in reemployment - social networks and labor mobility as enablers

It has been widely recognized that knowledge is a valuable economic asset. Productive knowledge transfer, adaption, and use, support innovation. Furthermore, innovation activity spurs new knowledge creation. Knowledge and innovation are interdependent in this sense. However, knowledge is often difficult to transfer. In addition, neither knowledge nor innovation generate economic value and growth without dense social networks because, according to Parent, Roy, and St-Jacques (2007: 84), "…knowledge is developed, transmitted and maintained in social situations.". (Cooke & Leydesdorff 2006, Harrison & Spigel 2017, Ylinenpää 2009, Howells 2012.) In other words, knowledge is interpreted, used and re-used by everyone while new knowledge is created along the process (Parent et al. 2007).

Dense social networks function as important paths for reemployment. Besides family and friends' connections and cues that facilitate finding open positions, local employment referral services, training programs, employment agencies, social organizations, and organized labor markets also contribute to job search process.

Information about jobs and job search process is a central value that these agents have to provide. (Cai et al. 2004, Van Hooft et al. 2012.)

Because knowledge is traded and generated in social interactions, compact social networks increase firms' and individuals' ability to identify business opportunities (Büchel & Raub 2002, Harrison & Spigel 2017). New knowledge can appear as new technology, product, or as a wholly new venture (Büchel & Raub 2002). Therefore, frictionless and effective flow of knowledge within a region is one of many factors contributing to new firm production (Eriksson, Hansen, & Winther 2017, Harrison & Spigel 2017). A positive cultural environment is also another important factor inducing entrepreneurship as a career option (Fritsch & Storey 2014, Spigel 2017). This and other attributes affecting regional development are illustrated in figure 3 and are more closely discussed in the next chapter.

Besides dense social networks, labor mobility between firms, regions, and sectors has been empirically proven to contribute to regional development (e.g. Lundmark & Power 2004, Maliranta, Mohnen, & Rouvinen 2009). Breschi and Lissoni (2003) and Fallick, Fleischman, and Rebitzer (2006) state that labor mobility is the best way to access knowledge and the networks exchanging it. Workers moving from other regions bring e.g. valuable knowledge about potential new customers and their needs whereas intraregional labor mobility enables an access to networks and knowledge externalities (Mukkala 2005, Breschi & Lissoni 2003). However, human capital and firm-specific skills are difficult to transfer to a new employer. Moreover, a JL's possessed skills and knowledge might not match the demands and needs of other employers in the region and be useless in that sense. In other words, a JL might find it challenging to sustain the professional status gained at the previous employer especially during and after a structural change. (Jolkkonen et al. 2012.)

On the other hand, Maliranta et al. (2009) argue that hiring an R&D employee and replacing him/her to non-R&D activities reinforces productivity and profitability of a firm. An R&D worker has knowledge that can be transferred into current company's operations and thus additional investments in R&D efforts can be moderated. Moreover, the presence of talent and knowledge gained from multinational corporations reflects positively back to the local community. In other words,

employees who leave an MNE (= multinational enterprise) and start a new venture tend to be more productive than their domestic peers. (Maliranta et al. 2009, Görg & Strobl 2005.) Moreover, Lundmark and Power (2004: 1026) state that "…mobility functions as a lubricant for structural transformation between declining sectors and companies and expanding ones.". Based on this argument, it can be suggested that labor mobility relieves and enables the reallocation of resources after a structural change.

Lastly, there are obviously a number of other factors affecting new venture creation and reemployment. Discussion on the consequences of regions' ability to recognize, utilize, and reallocate resources was opened in this chapter. The nature of relationships and organisms of a community that contribute to region's economic development are characterized and sculpted by its history, socio-politics, and entrepreneurial processes (Pitelis 2012). Region's elements and their communions are considered next.

2.2 The definition and accounts for entrepreneurial ecosystems

Entrepreneurial ecosystems are communities that are often embodied as concrete, geographical regions and that nurture the creation, survival, and expansion of high-growth firms. This kind of economic development i.e. the emergence and growth of new firms is reinforced by the flows of resources and knowledge among interconnected entrepreneurs and ventures. (Harrison & Spigel 2017.) Ecosystems stress heavily the responsibility, independence, and interdependence of entrepreneurs. The entrepreneur-centric view stems from the idea that the experience and networks that entrepreneurs possess make them the best candidate for regional developers. (Harrison & Spigel 2017, Pitelis 2012, Stam 2015, Spigel & Stam 2016.)

2.2.1 Entrepreneurial ecosystem's cultural, social, and material attributes

Although entrepreneurs influence and contribute to ecosystem's creation and sustainable health, there are other prominent figures whose presence and actions support the salient resource flows. These figures can be distinguished to be *cultural, social,* and *material*. The connections between them are either supporting or

reinforcing. (Harrison & Spigel 2017, Spigel 2017.) Figure 3 illustrates the affiliations and the type of the relationship between these three attributes.

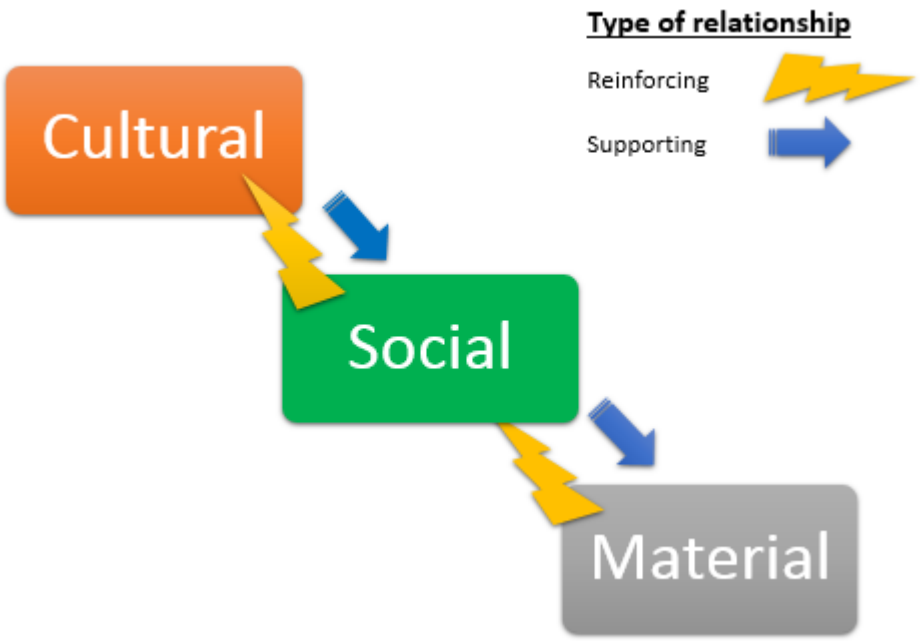

Figure 3. Entrepreneurial ecosystem's relationships between cultural, social, and material attributes (adapted from Spigel 2017: 52–57)

Supportive culture and histories of entrepreneurship represent the cultural attributes of entrepreneurial ecosystems. Positive public attitudes towards entrepreneurship within a region lower the barrier for self-employment and increase the likelihood for entrepreneurial activity that appears as e.g. engagement in startups. (Fritsch & Storey 2014, Isenberg 2010.) Success stories of profitable and prosperous enterprises contribute to the formation of positive cultural atmosphere and thus encourages new business creation because taking the risk of becoming an entrepreneur seems worthwhile. In other words, the lack of such histories might make entrepreneurship appear too risky and discourage self-employment. (Harrison & Spigel 2017, Spigel 2017.)

The cultural attributes of an ecosystem support the formation of social attributes. This is indicated with the blue arrow in the figure 3 connecting the orange box titled culture with the green box representing the social attributes. Positive outlooks on entrepreneurship create a context where dense social networks are composed.

Through these networks, resources such as investment capital, worker talent, and mentorship become accessible for entrepreneurs within a region. Mentorship from experienced, successful, local peers is vital for risk-management during the start and growth phases of new ventures because they can help in avoiding common pitfalls. Furthermore, networks mitigate the access to talented employees and venture capital that are also essential for the growth of enterprises. Through their own social networks, investors screen potential business ideas for investment whereas entrepreneurs vet their own networks for finding suitable, skilled employees who are willing to work for their startups and in that way enhance their venture's growth. A strong set of these resources strengthen region's cultural attributes because utilizing networks for guidance during firm creation regularizes such practices. A successful exploitation of social resources of a region enables the creation of new entrepreneurial success stories. (Brown & Mason 2017, Harrison & Spigel 2017, Spigel 2017.) The yellow lighting in the figure 3 represents the reinforcing effect of social attributes on cultural attributes.

Lastly, the material attributes of an entrepreneurial ecosystem, illustrated with the grey box in the figure 3, stands for physical entities like organizations and institutions that nurture entrepreneurship. More specifically, these could be e.g. universities, growth accelerators and incubators, but also e.g. regional infrastructure, premises, open markets, and public policies. These formal and informal attributes support new venture creation by providing e.g. bricks and mortar, financing, training, and adjuvant services. They also work for erasing the obstacles for accessing local and global markets. (Harrison & Spigel 2017, Spigel & Stam 2016, Spigel 2017.)

The social attributes are connected to the material attributes and support them for example in a situation where a networking program is arranged by a regional organization because it builds on extant social networks and knowledge flows. The program, in turn, reinforces the development of these networks (i.e. social attributes) by enabling an environment for the creation of new connections i.e. increasing region's networking activity and consequently contributing to new venture creation. (Harrison & Spigel 2017, Spigel & Stam 2016, Spigel 2017.) The way universities contribute to the development of network and other social attributes such as talented workforce occurs by mediating internships, studying abroad, and arranging e.g. guest

speakers and conferences. In other words, they bring together a spectrum of actors within the region through which they maintain and foster the pre-existing social and cultural environment of an ecosystem (Hertz & Pittz 2018.) The interrelationships of social and material attributes are presented in the figure 3 with the blue arrow and yellow lightning respectively.

2.2.2 Entrepreneurial ecosystem's key elements, products, and outcomes

In conclusion, many factors that contribute to the development of the ecosystem emerge from entrepreneurs. Institutions or state's role is to simply nurture the community's ability to create and use such resources rather than participate in the engineering process. (Harrison & Spigel 2017, Stam 2015.) Formal institutions represent the *framework conditions* for entrepreneurial ecosystems. Culture, physical infrastructure, and market demand are the other three framework conditions.

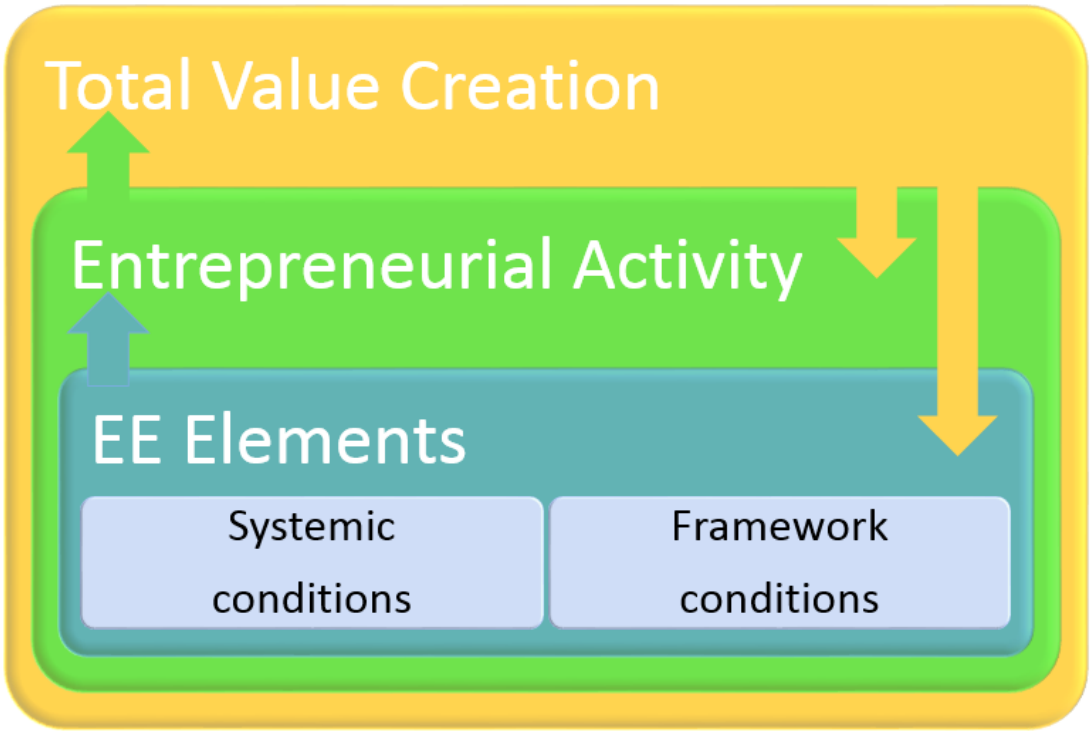

Figure 4. Entrepreneurial ecosystem's key elements, products, and outcomes (adapted from Stam 2015: 1765)

Whereas the figure 3 illustrated the two types of relations between three distinguished attributes i.e. cultural, social, and material, figure 4 presents the intra-

layer causal relationships and their outcomes of entrepreneurial ecosystems more comprehensively. The arrows in the figure 4 indicate the directions of causation i.e. which elements or activities affect which ones. The blue arrow illustrates entrepreneurial ecosystem's causation on entrepreneurial activity and the green arrow indicates that entrepreneurial activity contributes to total value creation. Total value created circulates back to the ecosystem and thus supports the development of activities and elements. This return is illustrated with two yellow arrows in the figure 4.

The framework conditions form the *elements of ecosystems* together with *systemic conditions*. The elements are illustrated as the blue box labeled with *EE Elements* containing the light blue boxes for systemic and framework conditions in the figure 4. As concluded above, framework conditions consist of physical and non-physical factors such as culture, formal institutions, physical infrastructure, and demand. These conditions together with systemic conditions are fundamental, intermediate enablers of value creation. Systemic conditions comprise networks, leadership, finance, talent, knowledge, and support services within an ecosystem. These bits compose an organism where resources such as information, experience, workforce, funding, and commercial assistance move, flow and are implemented in a successful manner and thus ameliorate the prerequisites for entrepreneurial activity. (Stam 2015, Spigel & Stam 2016.)

According to Stam (2015: 1766), "The presence of these elements and the interaction between them predominantly determine the success of the ecosystem.". Moreover, co-developing both framework and systemic conditions as a whole reverts back to the ecosystem and thus contributes to its consolidation, reinforcement, and expansion. For example, teaching entrepreneurs about funding possibilities is not enough for their domiciliation. In other words, other ecosystem's particles such as infrastructure and market opportunities are also determinants for entrepreneurs when deciding whether to reside in the region or move elsewhere for better opportunities. (Isenberg 2011.)

Even though much of the entrepreneurial activity occurs thanks to entrepreneurs' traits and ambition, ensuring the availability of critical resources and infrastructure

for new venture creation is pivotal. The supply and accessibility of the aforementioned resources, i.e. entrepreneurial ecosystem's elements (EE Elements in figure 4), lower the barrier for engaging in entrepreneurial activity. (Stam 2015.) It was discussed earlier that cultural attributes, i.e. positive social outlooks on entrepreneurship, contribute to the increased engagement in startups, entrepreneurial projects, etc. Region's culture is designated as one of the ecosystem's framework conditions. In other words, what is pivotal for the success of an entrepreneurial ecosystem is attracting high-potential, entrepreneurial-minded individuals and teams hence why framework and systemic conditions play such an imperative role in ecosystems. Social and monetary support, incentives, and prospects for growth induce entrepreneurial activity. (Autio et al. 2014.)

In other words, the elements of entrepreneurial ecosystems i.e. physical premises and non-physical capacities form the body of the ecosystem that either enables or limits entrepreneurial activity. The functionality of this body, i.e. the flow, cooperation, and interaction of tangible and intangible resources, affects the level of entrepreneurial activity. The total value consists of e.g. the number of new ventures and innovations created that produce new jobs, new success stories, and thereby enhance positive attitudes on entrepreneurship that in turn contribute to the increased adoption of entrepreneurship as an alternative for future career. Moreover, a functional ecosystem can shorten the launching process and time of new innovations (Spigel & Stam 2016).

In conclusion, ecosystems suggest that (Harrison & Spigel 2017, Fritsch & Storey 2014, Spigel & Stam 2016, Spigel 2015, Stam 2015)

1) the presence and proximity of firms promote knowledge generation and capitalization.
2) Resources flow beyond industrial borders, because the focus is in exchanging entrepreneurial knowledge over that of industry-specific. Networks are the greatest enabler in such knowledge transactions and formation.
3) They are led by entrepreneurs because they possess skills and knowledge to identify and overcome challenges and build networks where useful resources are traded and utilized, and where existing firms play a major role as well

because they benefit the ecosystem by sharing their expertise and networks across industry borders.

4) Institutions act merely as facilitators and nurses of entrepreneurial activity and processes.
5) The successive emergence of innovations attracts highly educated labor to the ecosystem.

2.2.3 Clusters – industry-centric ecosystems

Clusters are one of the antecedents of entrepreneurial ecosystems literature. This means that these frameworks build on same core arguments and share some principles on how competitive advantage is generated within a region, but entrepreneurial ecosystems add the entrepreneurial perspective on the paradigm of clusters while abandoning some elements of them. In other words, both paradigms seek to explain the core reasons why some regions succeed in producing new ventures continuously and perform economically better than others. (Brown & Mason 2017, Pitelis 2012.)

Pitelis (2012: 1361) defines clusters as "geographical agglomerations of firms in particular, related, and/or complementary, activities, sharing a common vision, and exhibiting horizontal, vertical intra- and/or inter-sectoral linkages, embedded in a supportive socio-institutional setting, and cooperating and competing in national and international markets.". Furthermore, history, socio-politics, path-dependence, etc. determine and guide the processes that affect the total value creation within a region. In other words, how elements like institutions and regional culture have evolved over time have set up the circumstances where knowledge, job, and venture creation are either enabled or restrained. (Pitelis 2012, Spigel 2017.)

Put differently, there are regional externalities that contribute to firms' competitive advantage. These external forces include other firms that share the same technological base or operate within the same industry. Multiple firms operating in the same industry attract specialists and skilled workers. The competition and cooperation between alike companies enhance their productivity and competitive advantage. Furthermore, the ample supply of the workforce enables new and small

firms to gain a better access to skilled employers than they would have in a region with a more diverse business landscape. The abundance of potential and skilled workers contributes to new ventures' potential to increase their innovativeness and their ability to reduce costs. (Harrison & Spigel 2017.)

The proximity of firms and their social embeddedness' positive impacts on knowledge access, creation, and recycling i.e. the external business environment's contribution to firms' and regions' competitive advantage is shared in both, clusters and entrepreneurial ecosystems, approaches. Intertwined activities are critical for new knowledge formation because the knowledge that an individual possesses is, in fact, dependent on other peoples' experiences and preceding discoveries. In other words, distribution of knowledge in social networks increases, enriches, and strengthens human knowledge. (Howells 2012.)

How the role of knowledge is manifested in clusters is especially through regional knowledge spillovers that result from interfirm labor mobility and intra- and inter-sectoral cooperation between cluster's firms and/or institutions (Harrison & Spigel 2017, Breschi & Lissoni 2003). New ventures can access these spillovers by e.g. recruitment thanks to the abundant supply of specialist and skilled workers. In other words, new ventures can spot market niches and access state-of-the-art technology because of robust local supply chains. (Harrison & Spigel 2017, Delgado, Porter, & Stern 2010.) Moreover, according to Delgado et al. (2010: 496), "The co-location of companies, customers, suppliers, and other institutions also increases the perception of innovation opportunities while amplifying the pressure to innovate.". Therefore, the elements of a cluster not only foster new business creation, but also strongly encourage towards it by generating opportunities and facilitating the establishment and lowering the costs of entrepreneurship (Delgado et al. 2010).

In conclusion, the main differences between clusters and entrepreneurial ecosystems are the structure of business landscape and the role of institutions and entrepreneurs in region's economic development. In clusters approach, there is not much variance in the local social networks i.e. businesses operate within the same industry. In addition, institutions such as universities are considered to be the sources of new innovation and educated, talented workers. Because of strong local networks,

cluster's firms are able to access knowledge spillovers from cluster's universities and enabled to utilize them for increasing the key outcome of clusters i.e. their productivity and competitive advantage. How knowledge is understood in entrepreneurial ecosystems, is slightly more comprehensive because dimensions beyond knowledge spillovers and transferring knowledge in regional networks are considered. These dimensions are discussed next.

2.2.4 Knowledge in entrepreneurial ecosystems

The previous approaches have emphasized the importance of technical know-how and its distribution through social networks in explaining the attractiveness and economic superiority of distinctive geographic regions. In other words, innovations i.e. new products have been considered to contribute to the competitive advantage of firms and regions. In addition to technical know-how, knowledge about markets are vital for creating products that flourish in the marketplace. (Spigel & Stam 2016.) According to Spigel and Stam (2016: 5), entrepreneurial ecosystems "…highlight a new type of knowledge: knowledge about the entrepreneurship process itself."

The networks in sharing information related to entrepreneurship are more informal in entrepreneurial ecosystems between entrepreneurs and mentors than between firms and institutions in clusters. This information consists of e.g. support in new venture creation, help in finding and accessing resources, and counseling on avoiding pitfalls and is transferred in e.g. incubators, business clubs, and training courses in addition to social networks. Furthermore, knowledge about entrepreneurial processes encompasses skills for identifying opportunities, pitching, and business planning. (Brown & Mason 2017, Harrison & Spigel 2017, Spigel & Stam 2016.)

Therefore, the knowledge that is present in enhancing productivity and creating a competitive advantage expands from mere technical know-how to business knowledge. The importance of technical knowledge in ecosystems should nevertheless not be ignored because cooperating entrepreneurs increase the cumulative production of new knowledge and innovation. In other words, ecosystem's entrepreneurs discover, develop, and apply new innovations together. (Brown & Mason 2017.) It all comes down to networks that "…enable the

valorization of knowledge and ideas throughout an ecosystem…" (Brown & Mason 2017: 20).

The conception of knowledge in ecosystems extends also to a cultural dimension. This means that entrepreneurs should abide and follow ecosystem's cultural norms in order to gain an access to the social networks. Cultural norms imply community's expectations on appropriate behavior and manners of an approach. Successful assimilation contributes to the legitimation-building process and integration respectively. This sociocultural knowledge is tangible and intangible meaning that it can be learnt from books, through training, and/or through interactions with ecosystem's senior, more experienced entrepreneurs and mentors. (Harrison & Spigel 2017.) According to Harrison and Spigel (2017: 156), "This knowledge helps entrepreneurs anticipate and overcome challenges inherent in the venture-creation process such as developing new products, finding initial customers, and growing their firms under severe resource constraints."

However, because sociocultural knowledge is sometimes difficult to obtain, entrepreneurs that are newcomers in the ecosystem might face challenges with entering and remaining successfully. These difficulties emerge from new ventures' finite capabilities to absorb new knowledge and their lower capacity to fully exploit every occurring opportunity. (Cardon 2004, Harrison & Spigel 2017.)

Lastly, both successful and unsuccessful entrepreneurship generate resources that benefit the ecosystem. On the other hand, cultural attitudes in the ecosystem determine how failure is accepted and treated. If failure is generally discriminated against, skilled entrepreneurs with business knowledge and experience might find it hard to reintegrate in the local labor force. However, these people have gained valuable experience from failed firms. In addition, failure more likely results from poor market timing rather than firm's internal resources. (Harrison & Spigel 2017.)

In conclusion, addressing, learning, and absorbing all the dimensions of knowledge as an entrepreneur in an ecosystem is crucial for avoiding common pitfalls when starting a business. Moreover, accessing community-based, ecosystem-specific

knowledge is crucial for firm's possibilities to identify markets' opportunities and to the ability to extract resources and apply them in its operations.

2.3 Reemployment in entrepreneurial ecosystem

This section concludes the main remarks that stood out from the literature. The two main concepts, i.e. reemployment and entrepreneurial ecosystems, will be combined in a way that a uniform framework can be created and utilized in the upcoming sections of this thesis.

It was concluded that there are several factors affecting the success of reemployment ranging from market demand and personal traits to job search strategies and outsider feedback on jobseeker's search behavior. Problem-focused strategies are especially important for a JL's job search process because of the greater size of groups dismissed that distort the labor market. When large numbers of people are dismissed due to a unit shutdown, there is oftentimes an oversupply of job applicants with similar market-based characteristics i.e. individuals possessing similar skills, education, and work experience. Therefore, job opportunities recognized, offered, and sealed depend greatly on jobseekers' search behavior, but also on individual and situational factors.

The discussion on the reemployment processes of a JL revolves around job search methods, behavior, and strategies that are being revisited and applied for improving one's odds. Boundary conditions such as current labor market demand shrinks JLs job opportunities and poses challenges especially for individuals' psychological endurance (Wanberg 2012). Psychological factors and personal traits also imply jobseekers' decision-making that, in turn, contributes to the inception and conveying of job search process. For example, Crossley and Highhouse (2005) suggest that jobseekers who are able to anticipate situations, tend to make more assertive and rational decisions and thus use a more focused job search strategy (see also Glomb, Song, Sorenson, & Wanberg 2005).

Lastly, dense social networks and a high degree of labor mobility are desirable for a local labor market for at least a couple of reasons. First of all, they could speed up

the reemployment process when it is regionally characteristic, accepted, and encouraged to be mobile in the labor market and when business and employment opportunities are easier to identify i.e. when one has social connections consisting of people who might possess information on hidden jobs. Secondly, they facilitate and nurture the creation of new knowledge and innovations when people and firms interact and cooperate. Identification of emerging market demands and gaps induces entrepreneurship that in turn contributes to reemployment in two ways: self-employment and new job creation.

The emergence and growth of new firms is reinforced by the flows of resources and knowledge among interconnected actors. In entrepreneurial ecosystems, entrepreneurs are the central actors within a region and state's role is to merely facilitate the conditions for entrepreneurial activity (Harrison & Spigel 2018). In other words, although entrepreneurs influence and contribute to the creation and sustainable health of an ecosystem, there are other prominent figures whose presence and actions support the salient resource flows.

Exchanging information, in e.g. how to find and access resources, how to avoid common pitfalls, how to nail pitching, etc., is important for the successful new venture creation especially under severe resource constraints as some posed by an SSC. The functionality of an ecosystem is transpired because of the proximity of firms. The resources in entrepreneurial ecosystems flow beyond industrial borders because the focus is in exchanging entrepreneurial knowledge. Therefore, in addition to the cooperative product innovation, business knowledge is traded through social networks. Furthermore, networks mitigate the access to talented employees and venture capital that are also essential for the growth of enterprises and, consequently, the region.

Based on the framework presented in this chapter, the empirical part will be presented after the introduction of the research methods. Throughout the empirical part, reflection to the theoretical framework is being endeavored and applied. Then, this thesis is concluded by a discussion between the extant literature, study results, and suggestions for future research. In other words, new perspectives and

propositions on the study of reemployment in the context of layoffs and structural change are to be discovered.

3 PLANNING AND CONDUCTING THE RESEARCH

The aim of this thesis is to gain an understanding over Nokia's ex-employees' reemployment processes after mass layoffs in Oulu area. Because the goal is to study individuals' inner experiences within a setting where reasons behind certain job search behaviors lie in e.g. culture and individual factors, qualitative study methods are appropriate to be exercised. In other words, I do not attempt to designate or measure the success of reemployment, but ultimately discover the path that led to the ex-employees' current job status. (Corbin & Strauss 2008.)

3.1 Research methods

As concluded in the introduction of this thesis, there have been several studies conducted on the reemployment of former Nokia employees. However, those studies have mainly been quantitative and produced for statistical purposes. I am more interested in the reasons and possibilities behind JLs' reemployment. In other words, my research questions, i.e. 1) what kinds of efforts people do for their reemployment under, during, and after an SSC in Oulu, 2) how the entrepreneurial ecosystem has contributed or affected their employment opportunities, 3) what kinds of roles do social networks, labor market mobility, and knowledge flows play in their job search process, and 4) how do all these elements contribute to Oulu region's development, cannot be fully answered with mere quantitative research methods. (Corbin & Strauss 2008.)

For finding answers to these research problems and questions, I will combine data gathered from face-to-face and phone interviews with 7 former employees of Nokia's Oulu factory that were laid off after 2011 together with secondary data that is used for a better understanding of the social, cultural, and economic context. In other words, triangulation is being employed i.e. more than one source of data for the study of the research problem are being used. (Bell & Bryman 2007, Hirsjärvi & Hurme 2001.) Furthermore, using reactive (e.g. interviews, surveys, systematic observation, etc.) and nonreactive (e.g. archives, participant observation, etc.) research methods contribute to the comprehensiveness of the study (Hirsjärvi & Hurme 1988). In other words, the use of nontechnical literature, i.e. newspapers, reports, videos, etc., are

used to supplement my observations. Moreover, there are regional factors in Oulu area that need to be elucidated for the best comprehension of people's reemployment processes and possibilities (Corbin & Strauss 2008.) For ensuring the validity of secondary data, my best effort in finding reliable sources, critical thinking, and cross-checking are being employed.

3.2 Data collection

3.2.1 Theoretical data

For attaining the highest of quality of the theoretical sources, scholarly databases were used. The existing literature was retrieved from databases such as Elsevier, ProQuest, SAGE Publications, and Emerald Insights, to name a few. Keywords such as entrepreneurial ecosystems, regional development, clusters, reemployment, reengagement, layoffs, factory shutdown, etc. were in the search of literature. The relevance of each article, journal, and publication for the theoretical framework was evaluated individually.

The publications used for this thesis were narrowed down to those works that best answered the research questions. Moreover, a great effort was made for finding the latest studies and knowledge on each theme. Thus, the chosen literature includes the most recent studies around the phenomena of reemployment strategies, job search processes, and entrepreneurial ecosystems.

3.2.2 Empirical data

Focused, semi-structured interviews were used for collecting the primary data of the study. A focused interview means defining the themes for the interview beforehand. In order to be able to define the discussed themes, I have examined the history of layoffs and the development of Oulu's business landscape and regional development inclusively. The chosen themes were presented in chapters 1 and 2. (Hirsjärvi & Hurme 2001, Bell & Bryman 2007.) In conclusion, the themes guide the interview but the flexibility of semi-structuration enables attention and discussion on emerging topics as well. In other words, the subject matters during interviews are same for all

the interviewees but the order of the questions and the questions themselves are responsive to the flow and information gained during the interview (Hirsjärvi & Hurme 2001).

One of the qualities of focused interview is that the interviewees have experienced the same matter or incident hence their selection for the study (Hirsjärvi & Hurme 2001). In this thesis, Nokia's ex-employees that were laid off after 2011 are the subject of the study. For reaching out to this group, I contacted BusinessOulu that offers support services for the establishment of new ventures to Oulu region, their growth and internationalization (BusinessOulu). They provided me with names of Oulu-based entrepreneurs and companies that were established by ex-Nokians. In addition, I published a post for finding suitable interviewees on LinkedIn's group *Link'd Oulu* and Facebook's group *Puskaradio Oulu* (eng. Grapevine Oulu) that has over 73,000 members because the former employees that have reemployed at a different employer or back at Nokia would have been very difficult to find. Furthermore, the chances of the group involving a member that knows a such person(s) were relatively high because Oulu's population is around 200,000 (City of Oulu 2017). Thus, in theory, almost a third of the population is a member of the group.

In this case, using snowball sampling worked because the members of the grapevine group were actively tagging their friends aka potential interviewees in the comment section of the post and some members were even giving further help in finding them by e.g. suggesting joining a Facebook group for former Symbian colleagues. In addition, people who saw the post contacted me in person to give leads to potential interviewees outside the group. Moreover, some interviewees identified themselves as a suitable fit for the study and sent me a message. (Bell & Bryman 2007.) Unfortunately, the LinkedIn group resulted in no leads. Nevertheless, I contacted a couple of my former colleagues through LinkedIn who were from Nokia and whom I had gotten to know during my summer job in 2018 but was unfortunately unsuccessful in getting any leads of potential interviewees.

The aim was to get 6−10 interviewees and I was successful in finding 7 suitable candidates. More than 7 people contacted me and volunteered for an interview, but

after 3-4 interviews information started to saturate and, therefore, I decided not to conduct more than I had already agreed to (Hirsjärvi & Hurme 2001). The analysis on these interviews will be presented in the next chapter.

3.2.3 Secondary data

When making the preliminary investigations around the topics, attention was paid to the reliable, high-quality data provided by e.g. public administrators and economic publications. The databases used for finding robust and trustworthy data material were e.g. the electronic archives of the city of Oulu, Business Finland, and robust journalistic reports on case Nokia. The reliability of these sources was confirmed by cross-checking sources with one another.

These sources enabled a longitudinal dimension for the study of the case Nokia in Oulu and the narrowing down of the study of reemployment to the former Nokia-employees in Oulu (Bell & Bryman 2007). Without the supplementary of the secondary data, the study results would have been merely cross-sectional and the themes of entrepreneurial ecosystem and the evolution of employment opportunities would have been difficult to recognize through mere interviews. Moreover, the interviewees would not have been able to provide enough accurate data on the previous matters. The inclusion of the high-quality secondary data enabled the confirmation of the interviewees' experiences and remarks.

3.3 Data analysis

Data analysis consists of many phases. According to Hirsjärvi and Hurme (2001), after gathering data, an analysis is conducted i.e. data is categorized. Analysis is then followed by a synthesis i.e. the phase where a general view and a new perspective on the extant theory are delineated based on the data (Hirsjärvi & Hurme 2001.)

The gathering and analysis of the data for the study of this thesis are illustrated in figure 5. The data analysis is depicted as a three-phased model that starts already during the interviews and continues until the reporting phase (synthesis). These three phases are the description, categorization, and combining of data.

The interview questions were created based on the themes emerged from the extant literature. The answers of the interviewees were interpreted ad-hoc and specifying questions were presented for a better understanding. Hirsjärvi and Hurme (2001) name this interviewing style *self-repairing* (= itseäänkorjaava). In addition, this kind of style perfects the description of the data. The analysis of the interviews was initiated during and right after the interviews for ensuring fresh approaches and pondering. After all the interviews were done, the primary data gathered from them was transcribed.

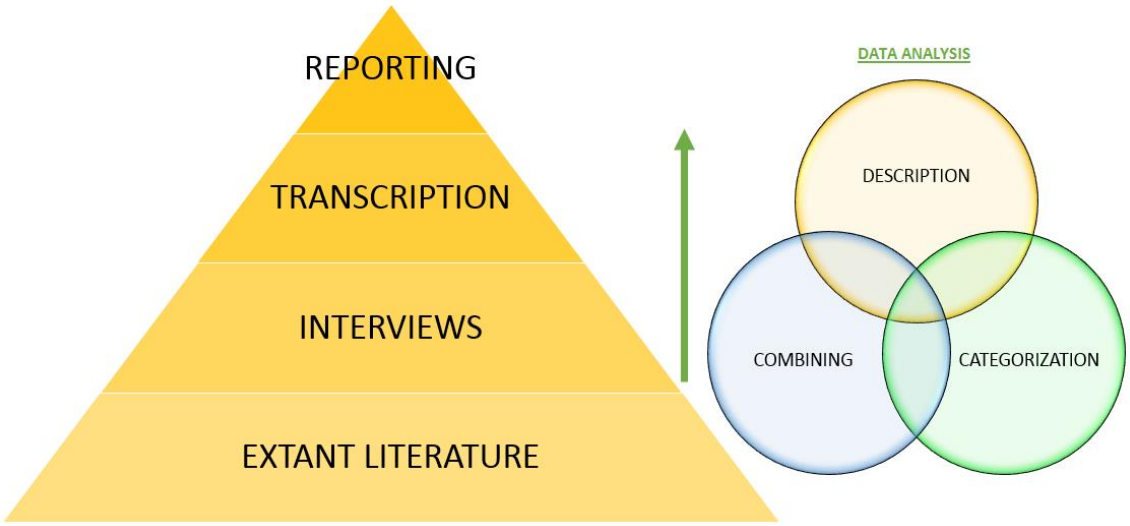

Figure 5. Gathering and analyzing the data

With the help of the body of the interview questions, recordings, memos, and transcriptions, recognizing the theoretical themes and new emerging topics was facilitated. The primary data was structured, i.e. categorized, by the theoretical themes of the thesis while obeying the chronological order of the interviewees' reemployment stories. Finally, the primary data was combined by identified similarities. The gathering and analysis of the secondary data followed the same path as mentioned above.

The next section of this thesis, i.e. the empirical part, follows the same structure as the data categorization. In other words, the reemployment processes precede the discussion of the business environment, economics, and the structural change of Oulu area.

4 REEMPLOYMENT IN OULU AREA

This chapter seeks to answer the research questions presented in the introduction and revisited in the previous chapter. First, the identified personal reemployment processes of the interviewees will be presented in a chronological order, divided into sections describing actions and activities before and after the last day of work at Nokia. These processes have inevitably been affected by economic distresses that Finland and regions have experienced and the structural revolution that has followed them. Following the analysis on interviewees' reemployment processes, the area of Oulu and the development of its business landscape will be discussed in the combined form of primary and secondary data. In other words, the connections between people's reemployment possibilities and regional development will be addressed. Finally, the findings of ex-Nokians' reemployment efforts under a business landscape turmoil will be recapitulated.

4.1 The reemployment experiences of former Nokia employees

Despite Nokia's vast ex-dominance in national and Oulu's labor market and the 'privilege' for public funding, its organizational knowledge has been an undeniably beneficial resource in tackling the unemployment and creating new jobs. Because the number of applicants per position was distressing, e.g. entrepreneurship was encouraged. In addition, new companies were desperately needed to Oulu.

What kinds of paths did people choose for their reemployment? What options did they have at the time and have their employment opportunities changed since the crumbling of the Oulu business landscape? These questions will be considered after the short introductions of the interviewees.

4.1.1 Overview of the interviewees

In this section, short introductions on the interviewees will be presented. Their profiles will be exhibited in no particular order and a summary of their career paths before, during, and after Nokia for a better understanding will be reviewed. An effort is made to keep their identities obscure hence why e.g. gender and the name of their

employers (other than Nokia) will be omitted. Table 1 compiles the previous and current positions of the interviewees and the duration of each interview.

Table 1. Interviewees' positions and the duration of the interviews

Interviewee	Position at Nokia	Current position	Interview duration
A	Manager	Entrepreneur/CEO	0:52
B	Subordinate	Subordinate	0:52
C	Subordinate	Subordinate	0:39
D	Specialist	Manager	0:44
E	Team lead	Specialist + external responsibilities	0:49
F	Subordinate	Manager	0:38
G	Team lead	Unemployed	1:58

Person A is a local entrepreneur who started a company with former Nokia colleagues. A was working in leading positions at Nokia and was offered a position in Nokia's office in Helsinki and later, a management position to run a business unit of a foreign company in Oulu, but felt like it was time to try something else. A has been active in working for the development of Oulu's business landscape before and during the shift to the career as an entrepreneur.

B was recruited from out-of-town to Nokia by a relative while still being a student in college in the beginning of the 2000s. B wrote the diploma work for Nokia and continued to work in the non-smartphone division that was not as vulnerable for cutbacks as smartphones were. After packing up the wrecks of the business unit, B went back to school to study a completely different profession. Eventually B ended up in a similar job to the one at Nokia, but where the knowledge learnt during reeducation could also be utilized and combined.

C started the career at Nokia from a summer job. After the ramp down of the mobile phone unit, C was transferred to Nokia's subcontractor. However, after some time, the subcontractor started to dismiss the ex-Nokians that had come to work for them.

C got a slight head start and found some opportunities in Oulu and also abroad. In the end, C was recruited back to Nokia.

D worked at Nokia for 9 years as a part of the R&D unit with legal instruments. D had clear plans for reemployment after getting the notice from Nokia and was offered a similar position in the capital area, but wanted to stay in Oulu. The field where D works in, constantly suffers from low supply of skilled employees and thus finding a new job was relatively easy. Potential employers were courting D directly and a new position was found with little effort and without having to move out of Oulu.

E started to plan of going back to school after getting the notice at the end of the career of 14 years at Nokia. E chose a program from a different field to the previous education and that luckily had an additional search due to high regional demand for workforce. However, finding an internship or a job during and after studies was challenging, although E had always been an active member of several unions and gained relative work experience through them. Ultimately, persistence and hard work paid off when E became the chairperson of a prominent union. That nomination meant a turning point in job search and enhanced E's reemployment possibilities.

F worked for Nokia for 5 and a half years and after getting the notice, went back to university because of the poor labor market situation. F continued her/his technology studies but this time under a different major. Being a career field changer, F reckoned the reemployment possibilities to be challenging and hence took part in an employment program arranged by E-services that was directed at jobseekers like F. Through the program, F got foot in the door and was successful in finding an internship that led to a permanent employment relationship.

G made a nearly 20 year-long career at Nokia moving between several different teams and tasks. After getting the notice, G participated in trainings that supplemented the work experience in order to improve the reemployment possibilities. Since then G has worked for several companies that have been unable to maintain staff and offices in Oulu due to acquisitions, mergers, and whatnot. With the help of a headhunter, G continues to look for a position for the few years of working life that remain before retirement.

4.1.2 Interviewees' experiences, behavior, and strategies before the last day of work at Nokia

There are situational and individual factors that affect a jobhunting process (Van Hooft et al. 2012). The mass layoffs conducted by Nokia and the chain reaction of dismissals that they stirred up for the company's subcontractors and other stakeholders, resulted in a structural change where the supply and demand of labor market did not meet. The challenges that the scarcity of open positions posed to individuals' job search were well addressed by all of the interviewees and the persistence and ability to adapt to the turmoil and uncertainty of Oulu's business landscape proved to be critical for finding a new job. Anticipation, determination and initiative before and after getting the notice of the forthcoming dismissal seemed to contribute to the interviewees' ability to find opportunities that led to a long-term employment. *Aimless drifting* did not determine one's reemployment. In other words, the lack of clear, cast-iron plans and career aspirations did not necessarily prevent the jobseekers from finding short-term or long-term jobs.

Nokia has commonly timed its dismissals for the beginning of the year i.e. spring time. The interviewees thought that this kind of scheduling posed additional challenges for their reemployment possibilities. F was one of the many that got a notice in February and was unlucky in getting job interviews especially in the break of summer time.

> *I certainly tried to seek for a job at the time… and then in the summer, I decided to… because in the summer time, in July, it is a pretty bad time to apply [for jobs] because of not getting any job interviews. I then decided to proceed to study.* (Int. F)

The timing of dismissal is a boundary condition that affects the reemployment possibilities either in a negative or in a positive way. According to Van Hooft et al. (2012: 29), "…when jobs are scarce, job seekers are more likely competing with many others for the same limited number of jobs. Holding applicant characteristics (e.g., education level, job experience, cognitive ability, etc.) constant, those conducting a high-quality job search process will be more likely to meet/exceed

hiring organizations' expectations because of higher commitment, better preparation, improved control of emotions and thoughts, and better self-monitoring.". In the chapter 2, the signs of high-quality job search were reported to consist of proximal and distant outcomes. This means that they occur either during the search process or as the result of the entire process and that they are embodied as e.g. the number of located opportunities that fit one's job aspirations, number of job offers and interviews, and status and speed of reemployment.

Although personal traits and psychological effects of unemployment were not the subject of study in this thesis, the themes came often to the fore during the interviews. F and D described the last six months of working at Nokia to be emotionally tough and uncomfortable mainly due to the lack of things to do. At the time of getting the notice, E was not ready to leave the job and was offered a fixed-term contract for the following one and a half years. During that contract, E could save up for the future and get extra time for planning the next move.

> *Yeah, what happened there was… it certainly was not a comfortable situation… to be working there anymore. That… it was extremely tough time and well, I did it for that I could get money. And well, I needed the money. And per se, it went ok for I, like, got some nest egg for myself then and well, I started to think that erm… I started to prepare myself for the entrance examinations of the business school then and erm, I applied to the master's program in 2013, in spring. And well then, I got in. And well, I started my studies in the fall 2013 and… studied and worked simultaneously. That… it was an intense fall.* (Int. E)

Discussing the intensity and harshness that being unemployed causes, and other feelings around it, is natural to humans because many concrete actions are guided by our emotions. After all, a human is a complex, unique entity. That is probably why the empirics of the study of reemployment has focused greatly on individuals' demographic factors (e.g. Cai, Giles, & Park 2006, Joutard & Sagaon Teyssier 2006, Jolkkonen, Koistinen, & Kurvinen 2012), motivational factors, and effects on mental health (e.g. Gowan 2012, Knabe & Rätzel 2011). In other words, many of my

interviewees elaborated that the reasons behind their decisions, strategies, and actions of choice based on hunches and feelings.

The interviewees told me about the extra stress that the annual layoffs caused. The uncertainty of the continuity of one's own job and the outgoing colleagues dispirited the working environment and many started to look for, or at least consider, jobs and opportunities outside the mobile phone and networks industry while still working for Nokia. Some leads even led to interviews, but not further than that for anyone of the interviewees.

D saw the dismissals of Nokia as the chance of a lifetime for a long, extended summer vacation. There had been rounds of dismissals many times before and when another one was launched in the summer of 2011, D volunteered to the manager of her/his team to be the one to leave if cuts were to be done. D's work unit was going to be transmitted to the capital area, but D wanted to stay in Oulu and thus resigned and accepted the severance package. Despite the involuntary job loss, D remained positive and set a goal to find a new job by the end of the year, after enjoying the long vacation. In the case of exceeding the deadline, D would have had to reconsider and revisit the adequacy of her/his job search strategies.

While waiting for the last day of work, D had time to plan the future and became certain that it was time to leave the engineering field behind. However, after doing some trials on an entirely different field, D realized the value to life of the previous job. The value meant regular, weekday working hours among other things.

B had similarly become convinced about changing the field of career before the last day of work at Nokia. Therefore, B's job search strategies concentrated on applying for reeducation. The idea for changing the field had been in the back of B's mind for some time already and the timing was apt for it. For F, the decision to go back to school was based on a more multifaceted reasoning.

> *I saw it as the only option, yes. Well… at this age, it is not very easy [to find a new job]. And then again, my studies were yet unfinished, getting*

> *dismissed from Nokia, and the poor labor market situation in Oulu… so, yes, I saw resuming my studies as the only option.* (Int. F)

In conclusion, the decisions to reeducate oneself and to continue one's previous studies were case- and person-dependent. B's decision to reeducate had matured for about 5 years before getting the dismissal notice from Nokia. The motivation for the career change stemmed from B's personal interests. Labor market conditions were the main determinants for E and F's return to school. At the time, E felt open to change when she/he came across an advertisement for an additional search for a study program of different field. There was a high demand of workers on that field in the Oulu region back then, which settled the reeducation decision. The interviewee F, in turn, saw completing her/his previous studies, that had been interrupted by the working life, as the only option for reemployment.

Some of the interviewees decided to supplement one's skills and previous education through individual courses rather than studying a whole new profession. G decided to take the severance package after waiting for the commencement of the forever-delayed training of new work tools at Nokia long enough. G had advanced and moved across teams and functions throughout the Nokia career but also experienced a great deal of empty promises. Because of the skepticism caused by the broken promises, G decided that it is time for opportunities outside Nokia. After enjoying the summer vacation and recharging, G decided to supplement her/his previous experience and knowhow through trainings and courses.

Taking supplementary courses or studying a whole new profession was not the first plan for some of the interviewees. The return to school did, however, cross their minds, but a calling and passion to any particular field was missing. Moreover, the long journey to a position of same kind and level did not make reeducation an attractive option.

> *Yes, it did cross my mind. I must admit that it did cross my mind… but it didn't maybe concrete what it could be… Then again, I want, like, another degree that is at least at the same level. So, it's quite a long process. And,*

> *I've told myself that if graduating from even one degree takes relatively long… it's probably not smart to get on with a second one.* (Int. C)

Before getting the dismissal's notice and the last day of work at Nokia's subcontractor, C applied for a project that was rumored to have an open, unofficial recruitment ongoing. However, C's profile was not a match with what they were looking for. Nevertheless, during and after the time of unemployment, C had heard other rumors about forthcoming mass layoffs and was determined to get reemployed fast because she/he acknowledged that the labor market was about to have a great oversupply of talented workers. To enhance finding job opportunities, C browsed job advertisements and took part in regional matchmakings.

Just like any other Nokia employee, A had sensed that due to the subsequent layoffs, there would be no work for everyone soon. However, A did not start planning the future before getting the actual notice. After that, A was part of a group that established a website where the regional engineering talent was promoted. The goal of the group was to attract companies to Oulu and thus create new jobs that would replace the lost ones. Another project that promoted the same agenda and where A was also active, resulted in an idea for business. A company that the project tried to lure to Oulu suggested buying services from them, instead of relocating or expanding to Oulu, if they were to start a company.

4.1.3 Interviewees' behavior and strategies for reemployment

All the interviewees had done long careers under the service of Nokia and settled down in Oulu despite some of them being born, having lived and studied elsewhere. Many of them were offered a continuation of employment relationship with Nokia in a different location. Some of them were offered opportunities even abroad. Some interviewees mentioned family-related reasons and the feeling of belonging and home for remaining in Oulu and declining the out-of-town job offers. In this section, the interviewees' job search strategies and processes will be elaborated.

As previously stated, a large share of the dismissals resulted from the ramp down of Nokia's mobile phone unit. When Nokia's employees were given their notice, they

had an option to take a severance plan from the company, take part in the Bridge program, and/or enroll as unemployed jobseeker in E-services (=TE-palvelut). Becoming an entrepreneur was an alternative that was optionally supported through the Bridge i.e. there were naturally other support systems and possibilities for entrepreneurship as well. Other alternatives that were offered and mitigated through the program were reemployment at Nokia/outside Nokia and training. In addition, a possibility for creating employee's own path was provided. The 'create your own path' alternative meant support for e.g. prospects recognized by the employee himself/herself or opportunities in non-profit organizations. (Hakonen et al. 2015.) The paths that the interviewees chose and the decision behind them will be presented next.

As already established, there are boundary conditions and precursors that limit and guide the job search process. In other words, the reemployment opportunities are limited not only because of the labor market demand, but also because of person's previous work experience, education, social networks, motivation, job search skills, etc.

G had become a skilled generalist, a jack-of-all-trades during her/his extensive career at Nokia. At the times of planning for a return to school, G had been lucky in finding a job and that had overridden and put aside the reeducation plans. Moreover, G's age, physical health, and educational background set certain limitations for her/his career options.

> *But… for sure… let's say… I, like, did explore the application papers and checked what I was, like… supposed to know [before applying]. But yeah like no, I don't have like… yeah, I should start entirely from zero. Or, not exactly from zero but… erm, if I were to apply, for example. But when I talk with professionals, so, they say that if I went, if I succeeded in getting into a university of applied sciences… I went to fulfill some engineering degree… doesn't matter what it would be… so, so, five… four, five, six, seven years! Then I would already be 60 years old!* (Int. G)

In other words, G's options for reemployment were limited to finding a new job. Therefore, G invested in completing supplementary trainings that would enhance her/his possibilities in the job market. Already before leaving from Nokia, G had used her/his contacts and applied for jobs that were non-related to Nokia i.e. in other fields of business. Despite the job search efforts before the dismissal with notice, no doors were opened.

After accepting the severance package and enjoying the vacation, G took part in different trainings provided by Nokia and local recruiting agencies. However, those trainings were mostly directed at ICT-programmers. Fortunately, the supplementary business courses led to a trainee position in an organization owned by the city of Oulu. The internship position was created specifically for ex-Nokians and G claimed it with the help of her/his school. However, the position and the working environment was not a match with G's career aspirations. Having connected with one of the managers who quit her/his job at the organization simultaneously with G, resulted in both of them transferring to another firm. Unfortunately, despite having an official, internal recruitment for the position, the firm in question was about to enter a merger and therefore despite giving the verbal job offer and a handshake, hiring G was not possible at the time.

After that G wrote plenty of applications and managed to get some interviews as well. A year after the unlucky recruitment incident, G was hired by the same firm but to a different position than earlier. Unfortunately, not long before starting there, the firm was bought and the employees who were in probation, i.e. not permanent workers, were dismissed. G's active job search began again. G has been active in calling after job advertisement but for some of them, a recruitment decision has already been made and many of the positions have been filled internally. In addition, G is listed in multiple recruitment agencies and has two headhunters assisting in job search. So far, a permanent position after 2−3 years of unemployment is yet to be found.

Out of all of the job search strategies, G has found the headhunter to be the most useful and productive. In addition to a more personalized and targeted job search, they provide sparring in important job search skills e.g. constructing and writing a

CV. G thinks that E-services could be more active in helping people find new jobs. An assigned contact person who remains the same throughout the process would contribute greatly to the possibility of reemployment, according to G.

After getting the dismissal with notice, E visited a career psychologist provided by the E-services in order to figure out her/his future plans. In addition, E took part in an employment and career advice undertaking that was targeted at university-level jobseekers. The undertaking was marketed at Nokia and that is how E heard about it. Then, E saw the advertisement for the additional search in the local newspaper and decided to apply. E was very determined to get in and thus memorized the entire entrance exam book which luckily paid off. Before graduation, E used both degrees for finding a new job. Furthermore, the job search skills and tips gained during the career undertaking's seminars became useful also at this point.

Despite some blanks in the memory of the entire job search process after leaving Nokia, E seemed to have been very determined and ambitious in pursuing her/his career. E had clear plans for her/his reemployment, but the limited possibilities in the labor market set restrictions for pursuing those aspirations. In addition, she/he noted that learning the modern job search customs required surprisingly a lot and that proved to be essential. What eventually helped E the most, was professional sparring provided by an advocacy group that E was a member of. The sparring consisted of a practice interview and a feedback session based on it. After getting help from the advocacy group, E succeeded in getting a job from the second interview she/he was invited to right after the sparring session.

What was problematic in E's job search process was the fact that she/he had dedicated to fulfilling her/his studies in less than 2 years and that led to the situation where she/he had no foot in the door. In other words, E had not done any internships that could have contributed to employment after graduation. After reflecting the efficiency of her/his job search and for enhancing her/his employment possibilities, E increased her/his already active hands-on presence in condominiums, political parties, and associations' governments. After becoming a person of charge in the previously mentioned advocacy group, there was a remarkable increase in job interview invites. Getting elected for these places has stemmed from E's personal

interest and voluntary attitude. Being organizationally active has resulted in reemployment and regional chairmanship as well.

Headhunter connections proved to be a useful lane towards reemployment for D, too. Before finding permanent employment, D was considering to change the field of career. D considered studying law but that would have required relocation to Rovaniemi because remote studying was not possible at the time. Becoming a shop owner had also intrigued D for some time already and for getting a realistic touch of what it might be, she/he exploited her/his network for experimenting it. However, the feeling of returning to the old tasks woke up again, because D recognized them to be something where she/he is very good at. Moreover, stable and regular office working hours were more attractive than the shiftwork that was required at the job of a shopkeeper.

After the summer vacation, D took part in a seminar at Nokia that was intended for the laid off staff. A simple tip learnt from that seminar was to tap a box in the settings of one's LinkedIn profile that lets the recruiters know that one's open for new opportunities. It did not take too long before D got two recruiters, who were interested in hiring her/him, contacting her/him. D chose the other company at the time and worked there for a few years. After those years, D decided to look for another job and was contacted by a headhunter only two weeks after starting the job search process. Everything went so smoothly and fast that D had not even had the time to tap the recruitment box on LinkedIn's profile settings this time.

The headhunter that contacted D was hired by the second company that had been interested in her/him years ago after the dismissal from Nokia. As mentioned earlier, D works in a field that has deficit in labor supply. Because of the high demand of labor force, job search for D was somewhat effortless. However, D had a great advantage from the previous customer service experience because the job required working at the customer interface. That, as well, increased D's possibilities for reemployment.

As G had mentioned earlier, there was, and still is, high demand for ICT-programmers. In other words, finding a job for a skilled programmer was relatively

easy despite the oversupply of the total labor force. In the previous section, I wrote how C was offered job opportunities also outside Oulu but decided to turn them down because of the required relocation. Despite being a valuable and a wanted doer in the labor market like D, C was active in searching for opportunities. She/he had been lucky enough to hear rumors about incoming dismissals and decided to act on finding a job fast.

C took initiative before the dismissal and approached a team that was working on a Nokia-related project, but was not hired by it. After the dismissal, C browsed through job advertisements and went to see a contact person at E-services just to confirm what was already established: they had nothing to offer her/him. E-services held a seminar about job search for the laid off staff as well, but C considered it useless. Then, C took part in a local matchmaking event that was marketed by Nokia's HR e-mails. In the event, C made some contacts and found companies that were interested in her/him.

Nevertheless, the new job was found via C's social network. A parent of C's child's friend was aware of a position that was about to open at Nokia and tipped C about it. In addition, this person gave C an email address where C could contact and apply for the job. At the end of summer, they invited C for an interview and after a standard recruitment process, C was chosen for the position.

Finding a new job after mass layoffs was relatively easy for D and C, but it has not been that for all ex-Nokians. As mentioned in the previous section, F did not see many possibilities for her/his employment after reeducation. Therefore, F took part in a program that was directed at people of her/his profile i.e. career field changers. F said that the program itself was not useful, but she/he found an internship of six months with the help of it.

The employment program was found and applied for by F herself/himself. Before reeducation, F took an open university class to test her/his ability to study after years in working life. Because of taking that class, the E-services almost denied the studying under unemployment benefit. D had a similar experience of E-services blocking or slowing down the process of changing one's career field. For

participating an interesting training, D did not qualify as an applicant because she/he had not been unemployed long enough. In other words, they felt like the E-services encouraged to being a passive jobseeker and taking initiative and being active are somewhat punished.

F was frustrated with the E-services because the contact person was changing too often. However, F empathized that the unemployment situation caused by Nokia's mass layoffs must have caught the E-services by surprise and thus they were unable to serve every person with as best as they normally could. In other words, they did not have the resources to take care of such a big of a group of unemployed.

Becoming an entrepreneur was not self-evident for A. However, A decided to give it a try and if it would not work after 18 months, she/he would return to being an employee in some company.

> *I'd claim that I was maybe, sort of drifted towards it [entrepreneurship]. I wasn't entirely sure if I wanted to or didn't want to [to be an entrepreneur]… Then, these other guys who were involved in this thing insisted that I would get involved with this. I guess it felt like 'why not? let's try this' because there was, as though, the possibility to try… the life of an entrepreneur for… is it 18 months that's like, you can then return to [being a non-entrepreneur]?* (Int. A)

On the other hand, A said that she/he would not have chosen differently even if there would have been open positions in the labor market. In effect, A was offered a position in a firm that the group succeeded in luring to Oulu. However, at the time, A wanted to try entrepreneurship. The decision stemmed from the will and urge to do something else than the tasks similar to the ones at Nokia.

Similar urges were behind B's reeducation decision after the dismissal from Nokia. However, throughout the interview, B was emphasizing the passion that she/he had for the job at Nokia. An interesting job opening where B could combine the knowledge and experience from the new field of study and the rewarding job at Nokia, encouraged B to suspend her/his studies. B's family member had been

browsing job advertisements when she/he had crossed a position where B could combine the best of both careers. B decided to sleep on it before applying but could not find the advertisement anymore on the next day. Nevertheless, she/he started browsing other available positions and came across the advertisement for this current job, applied, and got hired.

In conclusion, there were plenty of alternatives for reemployment besides just finding a new job right after dismissal. After all, finding a new job was simply not possible for everyone in that economic situation. In the following section, regional and external factors and how they have evolved after the mass layoffs will be discussed. Some of interviewee's comments and experiences will be included to supplement the secondary data.

4.2 Nokia's role in Finland and Oulu's economy

In the introduction of this thesis, it was established that 70 % of Nokia's Bridge program participants were re-employed at the year of 2012 (Pirskanen 2012). Furthermore, 300−400 startups had been created in Oulu area through the program (BBC 2018). Despite the hundreds of new ventures created, the unemployment rates were boosted by Nokia's continuing, annual mass layoffs.

Lindén lists Nokia's influence on the labor market in Finland as one of many company's problematic and harmful effects for the country's development. Nokia was hiring the best people to work for them, which meant that other companies had to settle for the leftovers. This effect was especially detrimental in Oulu, and Salo, because their labor markets were not as diverse as in other cities, like Espoo and Tampere, where Nokia also had operations. (Lindén 2016.)

The business landscape of Oulu during Nokia's reign was largely homogenous and built around the company. Bresnahan and Gambardella (2004) discuss *the Scandinavian cluster* that is composed by two MNEs: Nokia in Finland and Ericsson in Sweden. They further-define the Nokia cluster to be twofold because their R&D activity is strongly concentrated in Oulu while the headquarters is maintained in Espoo (Bresnahan & Gambardella 2004).

Because the Nokia cluster attracted specialists and skilled workers and thus dominated the labor market, regions were largely shaped by the needs of the ICT industry. In other words, the company, its subcontractors, and other outsourcings contributed greatly to Finland's employment rate and that is why the education and supply of labor force is fostered by e.g. policies and universities. As discussed earlier in this thesis, there are regional externalities, like institutions and infrastructure, that enhance firms' competitive advantage by e.g. generating opportunities for innovation. All in all, the nurture, dominance, and extent of one distinguishable industry that manifests as a spiky bit in an otherwise flat world, represents a cluster. In other words, a cluster is a geographical region of which economic performance is distinctively better than that of other regions' and where the dynamic, local settings fuel its firms' productivity and competitive advantage. (Delgado et al. 2010, Harrison & Spigel 2017, Lundmark & Power 2004, Brown & Mason 2017.) In conclusion, the Oulu business landscape represented a cluster until the devolution of Nokia.

After the reciprocal layoffs started, highly skilled labor was available. Unfortunately, due to the homogeneity of the business landscape, there was a limited number of open positions in the field and that, for its part, contributed to the proliferation of entrepreneurial spirit. Sipola (2015) identifies 1) the existence and availability of competent labor, 2) the mass layoffs, 3) the structural change, 4) the success stories of e.g. MySQL and Rovio, 5) increased startup activities in Finnish universities, and 6) the increased use and usefulness of internet, as the factors explaining the increased number of startup initiatives during and after Nokia's position as a market leader started to crumble. Increased entrepreneurial activity was recognized by policymakers and produced more startup-focused institutional support programs. (Sipola 2015.) In conclusion, the business landscape started to evolve towards the shape of an entrepreneurial ecosystem. In effect, large existing firms like Nokia are central in the configuration of entrepreneurial ecosystems because they have attracted a pool of talented workers to the region, excited knowledge spillovers, and acted as early-phase customers for new local firms (Brown & Mason 2017).

Entrepreneurial ecosystem's core is the functional recycling of resources that increases the total value which, in turn, contributes to the development of entrepreneurial activity and elements i.e. systemic and framework conditions. This

circulation was illustrated in the figure 4 in chapter 2.2. According to D's experience, despite the gloomy outlooks on the future of the city of Oulu that Nokia's mass layoffs caused, firms established by the former employees sparked the change of the business landscape towards a more self-supporting direction rather than relying on one power operator.

> *[the diversification of the business landscape in Oulu] is visible in their [firms'] current businesses' customer base. Back then, Nokia did not eventually really use the local service providers because it [their business] was so global. Everything was sourced from abroad, but now there are more smaller firms who source locally. The system has become more self-feeding.* (Int. D)

The line chart in figure 6 represents the R&D and innovation funding's allocation by company size in Oulu between 2010 and 2018. Business Finland (formerly known as Tekes) has directed an ever-growing share of its funding towards micro-sized firms as can be seen from the figure 6. Statistics Finland defines a micro company to have less than 10 employees and an annual maximum revenue of 2 million euros (Statistics Finland). What can be concluded from the figure 6 is that it is undeniably clear that the increase of funding micro-sized firms was drastic since 2010. In 2016, micro-sized firms received 13.1 million euros which was over 75 % more than what they received in 2010. Uros Ltd is a company worth mentioning in this context, because they received over 1 million euros of loans and assistance from Tekes every year between 2012 and 2014 despite being established in 2011. In 2017, Uros Ltd employed 31 people. (Business Finland 2019, Kauppalehti 2017.) The other new, Oulu-based ventures that received over 1 million euros from Tekes between 2010 and 2017 were IndoorAtlas Ltd, VALKEE Ltd, Oura Health Ltd, and Focalspec Ltd. R&D funding was distributed to colleges, universities, and the Technical Research Centre of Finland (VTT) only. Thus, new ventures were assisted by Business Finland by mere loans and grants. (Business Finland 2019.)

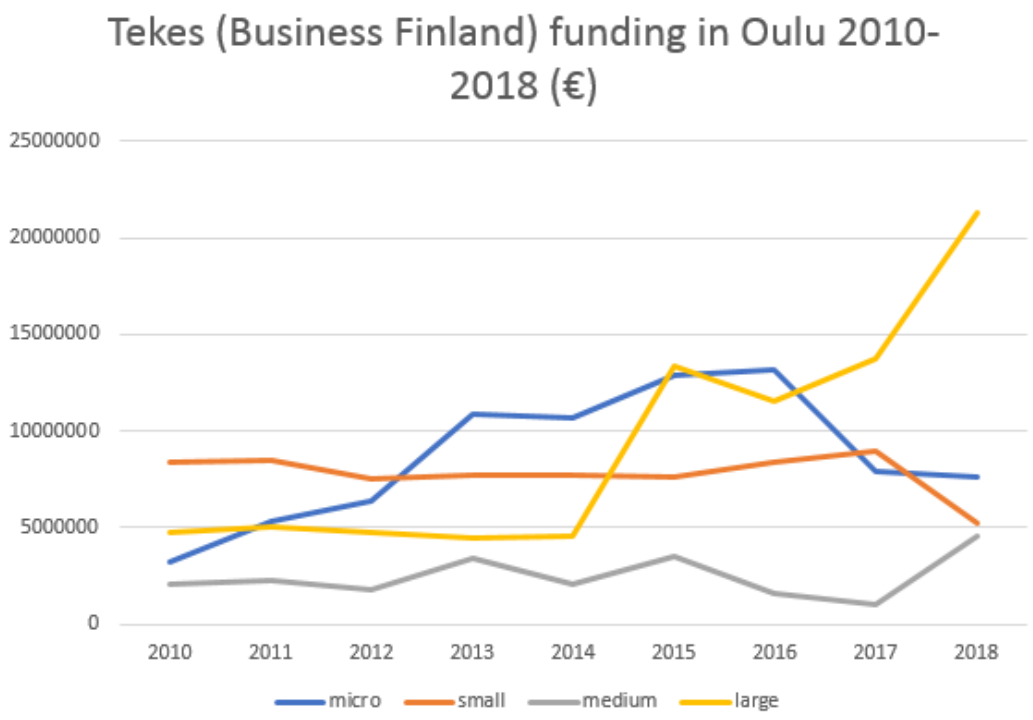

Figure 6. The Evolution of R&D & Innovation Funding in Oulu by Business Finland between 2010 and 2018. (based on data by Business Finland 2019)

The diversification of Oulu's business landscape, i.e. the emergence of new ventures on the ruins of Nokia, denotes a structural change. The emancipation of ICT talents and the mismatch of supply and demand in the labor market resulted in a situation where the former Nokians were encouraged to start new firms for creating jobs. On the other hand, they had only a little choice for other options for their reemployment because of the nonexistent availability of open positions in Oulu. In other words, other options would consist of reeducation, relocation, or unemployment.

The cultural environment of Oulu started thus to evolve towards entrepreneurship-supportive from the former industry-centric because of the extensive supply of skilled talented workforce and scarce supply of jobs. Later on, the success of new local ventures contributed to the formation of positive public attitudes towards entrepreneurship as well. Positive outlooks that are increased and strengthened by success stories and support services increase the likelihood for engagement in entrepreneurial activities such as startups and incubators furthermore. (Fritsch & Storey 2014, Harrison & Spigel 2017, Isenberg 2010, Spigel 2017.) According to the city of Oulu, the Oulu region has a strong, positive will and atmosphere for work.

The interviewee E has recognized the growth of entrepreneurial spirit as well. There are an increasing number of premises for cooperation and entrepreneurial activities. Moreover, the young age distribution further helps the progress of entrepreneurial education and development. (City of Oulu 2013.)

The entrepreneurial culture of a region stimulates the formation of social networks where e.g. knowledge and advice are being exchanged. Dynamic networks improve one's ability to access resources such as venture capital, talented employees, and mentorship. Moreover, they enhance one's ability to spot and get information on market niches and business opportunities. (Brown & Mason 2017, Harrison & Spigel 2017, Spigel 2017.) According to Autio et al.'s (2014) analysis on Finland's score on the GEDI index (= Global Entrepreneurship and Development Index), networking is one of the country's best assets i.e. connections that evolve and occur between people, firms, and institutions are effective and beneficial. Based on the employment program by the city of Oulu, this statement holds true. The region has long-established cooperation between R&D institutions, companies, and the city. These networks enhance innovativeness and coordination of specialists. Nevertheless, networks are named as one of the needs for development for increasing the employment rate along with mobility, communication, and customership. (City of Oulu 2013.) The state and usefulness of social networks in Oulu were discussed with the interviewees as well.

The institutions role and importance for Oulu region's development was twofold among the interviewees. According to F's conception, education has gone towards applied sciences and the role of specialized research has diminished. On the other hand, the government's institution where E works at, invests highly in R&D and has contributed to the creation of over 20 startup spin-offs in Oulu. Moreover, C sees the collaboration of Nokia and local universities still meaningful for the region's evolution.

After the dismissal, A was working to promote Oulu and the skilled workers in the region with a group of other former Nokians. The agenda of the group was to attract new companies to the region and create jobs. However, a market niche was recognized during negotiations with the potential companies and that led to

establishing a firm. A described the entrepreneurial ecosystem of Oulu after starting the business followingly:

> *Well, the Nokia background [helped] per se that, of course, simultaneously when people have left… obviously, there were quite many employees that had left also long before and at that time, [people] were leaving and left also later… so… the network that has kind of evolved throughout the Nokia years. So, [it] has surprisingly been totally ridiculously good if one thinks like how can one find customers, but also business associates and specifically in dealing with things that oneself is not a perfect expert at. So, you know that you can find someone like that from your own network. And some of them are even such good friends that they don't charge anything that… they can give you some consultancy for an hour or two just like that and then it's only like 'OK!'. Then, one can help some others too. That works pretty well here in Oulu, in my opinion.* (Int. A)

On the other hand, A criticizes that the interfirm collaborations have diminished within time because ventures have matured and become rivals of some sort with one another.

> *It has not remained the same because back then everyone was trying to find their place. After that, when everyone has settled down at their firms, the discussion is maybe a little bit more cautious especially if there is some overlapping operations with one another or there is some competition… So, it is possible to talk about things on a general level, but erm… it does not go further than that.* (Int. A)

Despite the rivalry, A thinks that interfirm collaboration could be beneficial for the ecosystem. Moreover, A added that this *keeping to one's own territory* kind of thinking is stuck in the Finnish culture. According to A's experience, competing Finnish firms are not very cooperative.

Labor mobility has not traditionally been very effective in Oulu, but A thinks that things are going to change along with the younger generations that have adopted more project-oriented working habits. The interviewees all named recruitment as the key to firm growth and development. In addition, labor mobility could speed up the reemployment process, as suggested in chapter 2.1.5. However, the problem in Oulu seems to be, as mentioned above, loyal employees. Loyalty reduces labor mobility that would be crucial for the accumulation and creation of new knowledge i.e. innovations. On the other hand, employees' loyalty is essential for some companies as A puts it.

> *Especially in small firms, the know-how is concentrated in a few people and in some sectors and… losing even one is a big accident compared to a medium-sized or -large firms. If they experienced the same, they always have someone to replace with. For a small company, it can be a kiss of death if a person, who has been in a key position, leaves.* (Int. A)

4.3 The development of employment opportunities

Helsingin Sanomat (2014) reported the unemployment rate to have increased up to 18 % in 2014 in Oulu. This meant that the number had nearly doubled since the subsequent mass layoffs that resulted from the shutdown of Nokia's mobile phone unit. In August 2015, the unemployment rate had risen to even more, up to 19 %, which meant that there were 18,000 unemployed people in Oulu (Valtavaara 2014, Lindén 2016.) Creating new jobs to Oulu region was thus unexceptionally essential, because the industrial policy had become distorted by the interests of Nokia. As concluded many times by now, Nokia had shaped Finland's technological development by having a significant influence on the Finnish labor and capital market, taxes, education, patents, research, and product development. The city of Oulu had depended too much on a single industry and that is why the people who lost their jobs had very low reemployment possibilities (Lindén 2016.)

The Bridge program provided by Nokia for its laid off employees represent a material attribute of an entrepreneurial ecosystem. These attributes are physical entities that nurture region's entrepreneurship. Other material attributes in Oulu post-

Nokia were e.g. obsolete computer hardware and office spaces that could be reused and -occupied by budding entrepreneurs like A. (Harrison & Spigel 2017, Spigel & Stam 2016, Spigel 2017.) The city of Oulu has also several projects that aim at increasing the employment rate alongside national employment services.

The interviewees have recognized the changes in the demand and the job search strategies of the labor market well. G praised the labor market to be more diverse and the abundance of open positions. However, the open positions seem to be in fields that are still in their infancy. Moreover, the demand and supply still do not properly meet. G criticized that the companies in Oulu do not have the audacity to hire older, more experienced workers. E had faced the same problem. She/he told me during the interview that some recruiters had told her/him in person that they were skeptical about whether the task would be interesting or challenging enough for E to make her/him stay longer in their company.

Based on the job offers that they are occasionally receiving through LinkedIn, interviewees B and C confirm that there is high need of skilled workers at least for the programming tasks. In the introduction of this thesis, it was denoted that there are currently more open positions in the ICT field in Oulu than there was during the Nokia era. Thus, especially programming engineers have very good employment outlooks compared to other fields. There is an oversupply of engineers of certain fields in the labor market in Oulu, according to E. F has also acknowledged the high need for IT experts and that the available positions currently are for *generalists*, i.e. employees who can combine and utilize two sets of knowledge, e.g. business and technical knowledge. In other words, the search is less focused on mere technical specialists and employees are expected to be able to do other tasks besides their core, basic tasks e.g. programming. At the same time, A criticizes the lack of marketing and sales specialists in Oulu.

Lastly, G expresses her/his concern on the distribution of power in Oulu. G sees that a notable share of jobs is created by a certain family and as a client of E-services, she/he is somewhat forced to apply for them despite the discouraging, incompetent salaries that they are offering. There are no studies to support this statement but for the desperate situation of a jobseeker, it would definitely be unfortunate.

4.4 Synthesis of the study outcomes

Although the interviewees' reemployment in Oulu has been greatly affected by external factors such as the structural change and the scarcity of open positions, individual's job search strategies and methods have had the biggest impact. Some of the interviewees had not yet found a new position, some of them went back to school and found a job in a new field, some got another job at Nokia or at other local employer, and some of them established their own firm. In addition, the chosen group of interviewees represented different levels of positions at Nokia comprehensively. Therefore, finding a great deal of ways for reemployment was rather successful.

Sparring as a meaningful assistance in job search was highlighted in the discussions, but also the job leads and other benefits gained through programs like matchmakings and others that were related to employment. In addition, the need to refresh one's job search skills up-to-date was rather well acknowledged by every one sooner or later in their job search process. The most surprising thing was probably the minute role of social networks in finding a new position.

There were several paths that the interviewees took after getting the dismissal's notice from Nokia in a very practical manner. For the sake of simplicity, a JL had basically two options after finding out that her/his position would no longer exist after the end of work obligation. They could take the severance package and was there no work obligation, the contract would be terminated at the earliest convenience. Or they could decide to work until their working unit was shut down. After choosing between these two options, one would have either active or passive endeavors for reemployment. These endeavors can be explained with the help of the three job search strategies that have become familiar along the thesis, i.e. focused, exploratory, and haphazard.

The differences between being an active or passive jobseeker possibly stem from personal traits like self-efficacy. Interviewees who had clear points of interests and views on what they wanted to achieve in life, appeared to engage themselves faster with either reeducation or back to working life. On the other hand, the flexibility and

ability to adapt to changing situations and the ingenuity to find solutions transpired from interviewees' reemployment stories. Having either multiple options or one determined and set goal, facilitates the perception and planning of steps that one has to take for achieving reemployment. In other words, the reemployment process builds on person's set or the lack of goal. According to Kanfer et al. (2001), jobseekers who have high levels of self-efficacy, self-esteem, extraversion, emotional stability and conscientiousness, agreeableness, openness to experience, and higher perceived control over their lives, tend to put more effort and time into their job search. Self-esteem and employment commitment are especially salient in JLs' reemployment processes (Kanfer et al. 2001).

The interviewees estimated their reemployment possibilities on one's demographic factors such as gender and age, previous experience and education, and the opportunities available in the labor market at the time. Weighing one's options and chances turned out to be vital in determining the next steps. Planning was named as one of the factors that contributed to the quality of job search process in chapter 2.1. A plan reduces the randomness in job search and allocates resources and efforts into a specific target only. For example, B, E, and F were very decisive about their hopes for their future. However, after reflecting her/his job search, F thought that she/he could have probably sped up and enhanced the engagement of reemployment by sending out more applications. In other words, effort or intensity could have advanced F's successful job seeking and employment (Boswell et al. 2012). F's estimate could be correct because according to Boswell et al. (2012), the intensity of job search is particularly vital in attaining reemployment in the context of layoffs.

The rest of the interviewees seemed to practice more exploratory strategies. They were taking their time and exploring their options. Every one who was open for jobs or paths that were contradictory to their previous work experience or field nurtured the use of exploratory search strategy. These kinds of jobseekers are more receptive for job offers and dedicated to increasing the odds of finding job opportunities. (Koen et al. 2010.) In effect, E took the use of time between the notice and the last day of work and searched herself/himself and what she/he might want to do in the future. After finding a suitable goal, E was very decisive in pursuing that. In other words, it could be suggested that E was using two different strategies during her/his

job search. According to Kanfer et al. (2001), an individual's job search intensity can change over time for several reasons. Some of the reasons could be e.g. current desire to gain employment and personal tendencies for renouncement. In other words, job search is a dynamic process that fluctuates according to individual and situational factors. (Kanfer et al. 2001, Glomb et al. 2005.)

Only one of the interviewees was still searching for a new position. It is possible that the jack-of-all-trades -nature of today's jobs has reduced G's possibilities for reemployment. However, job search that starts lingering could, at best, contribute to the better the conception of the process and the success of it (Boswell et al. 2012). In fact, according to Boswell et al. (2012), persistence in job search after a dismissal could pay off especially for the older JLs because they might need more time to adapt to the modern job search and their job search skills some updating. However, G cannot be criticized for her/his lack of intensity nor effort.

In the previous section, A's concern on the region's high focus on technology knowhow while subordinating the sales and marketing skills, could partly explain G's bad luck in the labor market. In other words, high concentration on comprehensive skills reduces the total amount of open positions. More specifically, one person does a two person's job. After all, what is the value of technology for a company, a city, a region, or a country if it cannot be sold due to poor marketing and selling skills?

It has been well established by now that the dominance of Nokia used to slow down the development of Oulu (and Finland) by absorbing the best talents. Now, the greater variety of firms works as a better protective shield against future economic downturns. In other words, abiding by the basics of investing, eggs should not be put in just one basket for the salvation of city of Oulu. Moreover, the formation and functionality of a self-feeding ecosystem should be more carefully nurtured. The interviewee A was already concerned about the negative effects of the ever more quieting informal social networks. The new, entering entrepreneurs might absorb the style of keeping their distance from other companies and, thus, these kinds of cultural characteristics, could become a development restricting factor. This kind of direction would be the opposite for economic development because for an ecosystem to be

self-feeding, entrepreneurs discovering, developing, and applying new innovations together, is crucial (Brown & Mason 2017). New ventures have it already hard enough to absorb new knowledge and to fully exploit every occurring opportunity. (Cardon 2004, Harrison & Spigel 2017.) Therefore, entrepreneurial ecosystem's culture should nurture cooperation and knowledge sharing rather than restrict it.

As concluded in the chapter 2.3, dense social networks and a high degree of labor mobility are desirable for a local labor market, because these characteristics could speed up the reemployment processes and reinforce the creation of new knowledge and innovations. The functionality of an entrepreneurial ecosystem nourishes the formation of such networks and resource trajectories. The criticism expressed by the interviewees towards the lowered labor mobility in Oulu suggests a restricting variable in the speed of reemployment processes. Moreover, the firms that generated from the abundancy of intra-industrial knowhow have become competitors of one another along with their growth and expansion. As explained above, it has affected negatively to the development of interfirm cooperative activities and networks. The diminished intercommunication, in turn, has a negative effect on new job creation and self-employment. In conclusion, cultural attributes play a prominent role in the functionality of an entrepreneurial ecosystem and even more specifically, the reemployment possibilities and processes within. This could partly explain the minute role that the social networks played in the interviewees' job search processes.

The results of the interviewees' job search processes are illustrated in figure 7. Its structure is based on the figure 2 with some modifications made and details added according to the research findings. In other words, the figure 8 offers a comprehensive, case-specific model of ex-Nokians' job search processes in Oulu. The relationship between job search process and outcomes is now two-way because reflecting one's outcomes from the conducted job search activities might reveal that they still need some refining. In other words, the activities might not be effective enough for work life reengagement and thus need to be revisited. In the figure 2, reflection was part of the quality factors of job search process (green bubbles).

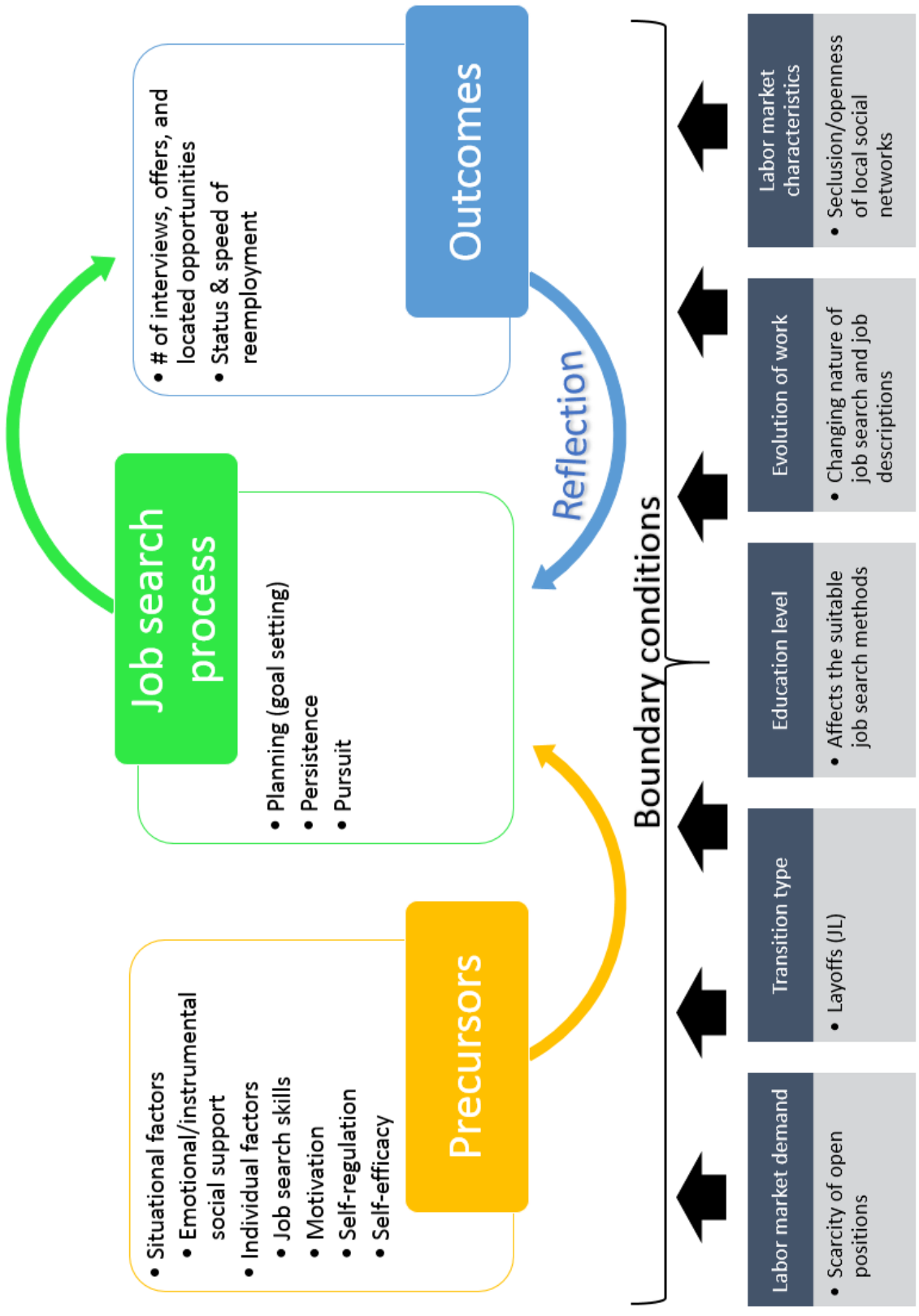

Figure 7. The boundary conditions, precursors, and outcomes of Nokia's ex-employees' job search processes

5 CONCLUSIONS

The conclusions of the study will be presented in this chapter. How this thesis achieved its goal of supplementing the extant studies and discussion on reemployment strategies after involuntary job loss, will be evaluated. Nokia conducting successive layoffs year after year in the city of Oulu provided a unique setting for such study. Oulu region was an especially intriguing study subject because of the homogeneity of the business landscape before Nokia started to crumble.

5.1 Conclusions

The objective of this study was to retrace former Nokia employees' job search processes. Ex-employees who were laid off after 2011 were taken as the part of the study because after the Symbian ramp down, the size of the groups of dismissed began to increase notably and due to that, started to have a negative effect on Oulu and Finland's economic development. Unraveling the efforts that these people conducted for their reemployment during and after an SSC was the main aim of this thesis. For a better understanding of the conclusions, the research questions are revised below:

- What kinds of efforts people do for their reemployment under, during, and after an SSC in Oulu?
- How the entrepreneurial ecosystem has contributed or affected their employment opportunities?
- What kinds of roles do social networks, labor market mobility, and knowledge flows play in their job search process?
- How do all these elements contribute to Oulu region's development?

In the empirical part of this thesis, an encompassing job search process with operant factors was presented. Together with the section for analysis, it is shown what kinds of strategies JLs, Nokia's laid off employees to be precise, conduct for finding a new job. Just like Boswell et al. (2012) concluded, specific situational and individual

factors have more influence on JL's job search than e.g. new job market entrants or employed job seekers would have. This claim receives resonance many times throughout the thesis.

The most effective job search effort seemed to be the use of outsider consultancy or sparring for enhancing the quality of job search. The impact of sparring was recognized by half of the interviewees who decided to try it after futile job search. Moreover, social contacts and participating in employment-related programs were useful in acquiring informal job leads. The most effective jobseekers were those who would change and refine their strategies according to the desirable outcomes i.e. getting job interviews and offers. Lastly, the ability to predict, prepare, and plan according to the labor market circumstances seemed to reinforce the interviewees' possibilities for reemployment. For example, seeing a career psychologist provided assistance in achieving a more focused job search. According to Crossley & Highhouse (2005), focused job search strategies result in higher process and outcome satisfaction.

The finding that not only did the poor labor market situation decrease the possibilities for reemployment but also the changed nature of work, is worth mentioning. For people who have worked for only one employer during and after their studies, modern job search must have proved to be a trip to the unknown. More so for some, than the others. However, this finding translates into the mismatch of the labor market demand and supply that was discussed several times throughout the work. Nevertheless, the changing nature of work needs to be addressed and discussed especially in the context of reemployment during and after SSC precisely because of the demand-supply mismatch. Realizing the changing needs of the labor market enhances the correlation through which overpowering unemployment can be fortified.

The diversification of the business landscape has created new kinds of opportunities for jobseekers. On the other hand, there are now also other employers than Nokia. Then again, some groups of specialists have now lower employment possibilities due to the expanded job descriptions. This expansion might be the result of an increased number of startups and small firms who have smaller recruitment resources. In other

words, it is more affordable for a small firm to hire one multitalent rather than two specialists.

Lastly, critique towards an ever-growing isolation of competing companies in Oulu came to the fore. Moreover, the lowered level of labor mobility that is a result from the high employee-employer loyalty in Oulu, must have affected the reemployment processes in a somewhat restricting way. Based on these critiques, calling Oulu's business ecosystem entrepreneurial is questionable because interfirm cooperation, frictionless flow of resources such as talented workers and business knowledge should be parts of its main characteristics.

5.2 Theoretical contributions

The aim of this thesis was to supplement the discussion on reemployment after involuntary job loss. Moreover, finding job opportunities and the evolution of job possibilities in an entrepreneurial ecosystem after a structural change were examined. Thus, reemployment processes and strategies and entrepreneurial ecosystems were discussed in the theoretical part and later in the empirical study. The findings of this study contribute to the extant literature of the aforementioned themes in following ways.

As noted earlier, the previous empirical research on reemployment and unemployment is largely case-specific and focusing on jobseekers' demographic features rather than job search efforts or strategies. In addition, the extant research is generally quantitative that draws on surveys or statistical data. Studies on unemployment's mental effects constitutes an exception to this rule. For example, Cai et al. (2006) measured the effect of the social networks and their size on reemployment probability after a factory closing. Although individual's characteristics are crucial for explaining, describing, and predicting unemployment, employment, and reemployment alongside psychological dimensions, they are not the focus of this thesis and thus the internal factors were omitted. Lastly, a notable share of reemployment literature is rather old; mostly from the 1980's and 1990's.

Therefore, studying Nokia's ex-employees' job search strategies make an important contribution to the extant literature. Moreover, job loss and search in the context of structural change has been previously largely ignored. Job loss after a dismissal has previously focused greatly on psychological matters, demographic factors, and the success of the job search (e.g. Van Hooft et al. 2012, Wanberg 2012). As proved many times in the earlier sections of this thesis, boundary conditions, i.e. macrolevel or external factors, have major effects on the job search process when the unemployment has been involuntary for large groups of people due to a collapse of a major employer. This thesis contributed to filling this gap in the extant literature.

The extant research on structural changes has been tenuous. I reckoned already in the introduction of this thesis that the absence of such research could constitute from the conceived significance of previous SSCs to countries' economies. In other words, Nokia's impact on the entire Finnish economy was unimaginable compared to the other similar cases such as Philips in Eindhoven, Netherlands. Although the SSC was not the focus of this study, it hopefully supplements the development of the paradigm's comprehensiveness.

Lastly, the surface of the theory of entrepreneurial ecosystems was scratched in the empirical part of this study. The concept and its literature have so far been widely atheoretical, speculative, and tautological with weak causality. The reason why entrepreneurial ecosystems were included in this thesis was because it contributed to the understanding of the evolution of Oulu's business landscape and economy. Despite not being the center of the study, the findings provide case-specific information on how labor and knowledge move within regional networks.

5.3 Managerial and social implications

This thesis gives policy-makers and firms information on the formation of region's competitive advantage and thus economic development. The research findings of this study have following implications for the development of regions and society. Because modern work and markets are unpredictable and unstable, the importance of reemployment and unemployment research is increasing. Countries and counties fight against unemployment for their economic survival and development. Therefore,

obtaining a clear view and understanding on actions and efforts that enhance the reemployment possibilities of those unemployed, is vital. The findings of this thesis suggest that personal guidance like sparring and career psychological services should be enabled and supported for a higher rate of employment of JLs, especially during an economic downturn.

The importance of social networks with regards to successful job search was also acknowledged. Furthermore, their importance for regional and firms' competitive advantage and development was established many times. However, a concern over increasing isolation of especially competing firms in Oulu was pointed out. Therefore, nurturing interfirm and firm-employee connections within a region should be on institutions and policy-makers agenda as well. Facilitating matchmakings could be considered as one solution to fostering an interactive ecosystem.

Because of the fluctuations in economy, the nature and needs of labor, market, and firms vary. Due to this variation, managers and policy-makers should revisit the appropriateness of implied methods, programs, and policies from time to time to keep up with the change. The firms in Oulu are not only competing against one another but also with firms in other Finnish cities and abroad. Uniting energies and competencies could eventually help in obtaining a stronger and a more comprehensive regional and firm-specific protection against national and global economic fluctuations. Therefore, it is only for the good of the economic state to answer to the needs of the firms and provide them the actual possibilities and tools for cooperation. Moreover, if a self-feeding ecosystem is considered as the ideal for the Oulu region, firms should also rethink their operations and targets. Firm managers should acknowledge and definitely consider the benefits of interfirm cooperation for their competitive advantage.

All in all, innovation is needed for new job creation. Institutions and firms produce new innovations whether they cooperate or not. Nevertheless, the power of teamwork is generally acknowledged. For maintaining development and being at the forefront of it, I suggest firms and policy-makers to polish their development strategies together in a more communal approach. In other words, common benefit should overpower the size of the slice of the cake.

5.4 Research limitations

There are several limitations of this study that are worth noticing. First, the cross-sectional design of the research obstructs the full understanding of the themes and the study subject. This limitation became apparent when the interviewees could not remember parts and details of their reemployment processes. The findings could have been more comprehensive and fruitful if the study was conducted longitudinally before, during, and after the SSC. In other words, how the business landscape has evolved and how the interviewees' behavior and opportunities has changed accordingly would have been easier to recognize. Moreover, the findings would have had higher validity in that case. A longitudinal study would have also contributed more to the discussion on the development of Oulu region with regards to employment possibilities. There is no valid historical data on jobs and their descriptions that would be useful for demonstrating the development.

The generalizability of the study findings is low. The study was conducted in Oulu and a specific group was sampled for it. The organizational culture at Nokia is known to be very distinctive. Moreover, the characteristics of Finnish culture are of its own kind. Lastly, the whole Finnish economy was largely shaped by the demands of Nokia and thus applying the findings of this research elsewhere should be disputed. On the other hand, the city of Salo also went through an SSC because of Nokia as the major employer but Oulu's education services are more comprehensive. Furthermore, Salo's population is only one fourth of that of Oulu.

Another limitation of this study is that distinguishing job search efforts and strategies from personal traits was challenging. Conducting certain strategies clearly stems from one's personality and instilled ways of acting. Moreover, how people search for a new job seemed to be dependent on their previous position. It is obvious that it affects their possibilities as well. Therefore, generalizations on the study subjects' job search behaviors should be very careful. Including a larger group of interviewees could have helped in recognizing these strategies and behaviors better and separating them from personal characteristics and previous positions.

Lastly, labor mobility, knowledge sharing, and social networks are challenging to discover cross-sectionally because secondary data on the matters is hardly available and interviews can give mere clues about them. For a deeper and better understanding of their importance for reemployment and regional development, I would suggest conducting a study that is focused on mere one of the themes in Oulu area.

5.5 Emerging opportunities for future research

Considering the limitations introduced in the previous section, I now present suggestions for future research that would supplement the understanding of reemployment in an SSC and the development of job opportunities. Moreover, how supplementary research could reinforce the validity of the findings.

First of all, Oulu and the SSC that the city has gone through, provide a great, unique subject for all kinds of research related to employment and regional development. Thousands of laid off Nokia employees have been the subject of studies many times before, but mostly on a global level. Therefore, focusing on Oulu-based ex-Nokians could produce interesting and beneficial findings. Moreover, focusing on workers from certain units and positions could enrich the research even more. For example, the job search behaviors of factory employees differ greatly, if not entirely, from top management's job search strategies. There are still good odds in getting valuable information from employees of a major employer in Oulu. After all, Nokia is still continuing its annual layoffs (Terhemaa 2019).

Multiple employment surveys have thus been conducted for the former employees of Nokia. However, their satisfaction to the new job of those reemployed is yet to be measured at least in Oulu. The quality of reemployment was mentioned in this thesis, but the purpose, this time, was not to assess it. However, because of the limited possibilities that there are in the labor market in Oulu still today, surveying the former employees' reemployment satisfaction could be interesting. Moreover, it would contribute greatly to the research of job search in an SSC.

For the sake of introducing practice and concrete evidences into the paradigm of entrepreneurial ecosystems, a case study could be conducted. There seems to be a general conception that Oulu represents such an ecosystem now that there are a great deal of startups emerging and because of the notably increased entrepreneurial activity. However, discussions with the interviewees suggest the opposite. The reasons behind such negative development are worth investigating. Understanding the functionality of Oulu's ecosystem and the elements of it would not only benefit the city or the region but also contribute to the development of the concept and the entire paradigm that has been suffering of tautology and poor affirmation.

Lastly, studying one of the themes of either labor mobility, knowledge sharing, or networks would give vital information about the functionality of Oulu's entrepreneurial ecosystem. In other words, conducting a thorough research on at least one of the topics would provide a comprehensive understanding of firms, entrepreneurs, labor force, and institutions' interconnectedness and contributions for the benefit of the region. When studying an ecosystem, more than one industry is under the microscope and therefore, results have the chance to become more generalizable. This would give the opportunity to compare cities and their success factors and thus improve policy-makers ability to recognize what it takes to enhance competitive advantage.

6 REFERENCES

Autio, E., Handelberg, J., Kiuru, P. & Rannikko, H. (2014). Analyses on the Finnish High-Growth Entrepreneurship Ecosystem. *Aalto University publication series BUSINESS & ECONOMY* 1/2014.

BBC (2018). The fall of Nokia: How this Finnish city fought back. Retrieved from: https://www.bbc.com/news/av/technology-45727841/the-fall-of-nokia-how-this-finnish-city-fought-back. Accessed 14.1.2019.

Bell, E. & Bryman, A. (2007). Business Research Methods (2nd edition). New York: Oxford University Press Inc.

Blau, G. (1994). Testing a two-dimensional measure of job search behavior. *Organizational Behavior and Human Decision Processes* 59, 288–312.

Boswell, W. R., Swider, B. W., & Zimmerman, R. D. (2012). Employee Job Search: Toward an Understanding of Search Context and Search Objectives. *Journal of Management* 38(1), 129−163.

Breschi, S. & Lissoni, F. (2003). Mobility and Social Networks: Localised Knowledge Spillovers Revisited. *IDEAS Working Paper Series from RePEc; St. Louis*.

Bresnahan, T. & Gambardella, A. (2004). Building High-Tech Clusters: Silicon Valley and Beyond. USA: Cambridge University Press.

Brown, R & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. Small Business Economics 49, 11−30. DOI 10.1007/s11187-017-9865-7

Business Finland (2019). Avoin tietoaineisto – Business Finlandin maksama tutkimus-, kehitys- ja innovaatiorahoitus. Retrieved from: https://tietopankki.tekes.fi/anonymous/extensions/MaksettuRahoitus/MaksettuRahoitus.html. Accessed 11.2.2019.

BusinessOulu (2018). Business Services for Companies. Retrieved from: https://www.businessoulu.com/en/company-services.html. Accessed 25.3.2019.

Büchel, B. & Raub, S. (2002). Building Knowledge-creating Value Networks. *European Management Journal* 20(6), 587–596.

Cai, F., Giles, J., & Park, A. (2006). Reemployment of dislocated workers in urban China: The roles of information and incentives. Journal of Comparative Economics 34, 582−607.

Cardon, M. S. (2004). Contingent Labor as an Enabler of Entrepreneurial Growth. *Human Resource Management* 42(4), 357−373. DOI: 10.1002/hrm.10095

City of Oulu (2013). Oulun kaupungin työllisyysohjelma 2013 –2016: työllä hyvinvointia ja elinvoimaa. Retrieved from: https://www.ouka.fi/c/document_library/get_file?uuid=ce1782fb-18f2-4b2b-8e8c-cdd0c5e70234&groupId=161982. Accessed 27.3.2019.

City of Oulu (2017). Tilastoja Oulusta. Retrieved from: https://www.ouka.fi/oulu/oulu-tietoa/tilastoja-oulusta. Accessed 25.3.2019.

Cooke, P. & Leydesdorff, L. (2006). Regional Development in the Knowledge-Based Economy: The Construction of Advantage. *Journal of Technology Transfer* 31, 5–15.

Corbin, J. & Strauss, A. (2008). Basics of Qualitative Research. (3rd edition). USA: Sage Publications.

Crossley, C. D. & Highhouse, S. (2005). Relation of job search and choice process with subsequent satisfaction. *Journal of Economic Psychology* 26, 255–268.

Delgado, M., Porter, M. E., & Stern, S. (2010). Clusters and Entrepreneurship. *Journal of Economic Geography* 10(4), 495−518.

Eriksson, R. H., Hansen, H. K., & Winther, L. (2017). Employment growth and regional development: industrial change and contextual differences between Denmark and Sweden. *European Planning Studies* 25(10), 1756-1778, DOI:10.1080/09654313.2017.1338673

Fallick, B., Fleischman, C. A., & Rebitzer, J. B. (2006). Job-Hopping in Silicon Valley: Some Evidence Concerning the Microfoundations of a High-Technology Cluster. *The Review of Economics and Statistics* 88(3), 472−481.

Feldman, D. C. & Leana, C. R. (1995). Finding New Jobs After a Plant Closing: Antecedents and Outcomes of the Occurrence and Quality of Reemployment. *Human Relations* 48(12), 1381−1401.

Fritsch, M. & Storey, D. (2014). Entrepreneurship in a Regional Context: Historical Roots, Recent Developments and Future Challenges. *Regional Studies* 48(6), 939−954.

Fugate, M., Kinicki, A.J., & Prussia, G. E. (2001). Explication of the coping goal construct: implications for coping and reemployment. *Journal of Applied Psychology* 86, 1179–90.

Glomb, T. M., Song, Z., Sorenson, S., & Wanberg, C. R. (2005). Job-Search Persistence During Unemployment: A 10-Wave Longitudinal Study. *Journal of Applied Psychology* 90(3), 411−430. DOI: 10.1037/0021-9010.90.3.411

Görg, H. & Strobl, E. (2005). Spillovers from Foreign Firms through Worker Mobility: An Empirical Investigation. *The Scandinavian Journal of Economics* 107(4), 693−709. DOI: 10.1111/j.1467-9442.2005.00427.x

Hakonen, A., Rönnqvist, R., & Vartiainen, M. (2015). The Bridge Program-Participant Perspectives. *Aalto University Publication Series SCIENCE + TECHNOLOGY* 4/2015.

Handelberg, J., Kiuru, P., & Rannikko, H. (2016). Bridge It Up -työntekijöille tarjottujen startup-palveluiden vaikuttavuus–Case Nokian Bridge-ohjelma. Retrieved from: http://docplayer.fi/267197-Bridge-it-up-tyontekijoille-tarjottujen-startup-palveluiden-vaikuttavuus-case-nokian-bridge-ohjelma.html. Accessed 16.2.2019.

Harrison, R. & Spiegel, B. (2017). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal* 12, 151−168. doi10.1002/sej.1268

Hertz, G. & Pittz, T. G. (2018). A relational perspective on entrepreneurial ecosystems: The role and sustenance of the entrepreneurship center. *Journal of Enterprising Communities: People and Places in the Global Economy* 12(2), 220−231.

Hirsjärvi, S. & Hurme, H. (2001). Tutkimushaastattelu: Teemahaastattelun teoria ja käytäntö. Helsinki: Yliopistopaino.

Hirsjärvi, S. & Hurme, H. (1988). Teemahaastattelu. Helsinki: Yliopistopaino.

Howells, J. (2012). The geography of knowledge: never so close but never so far apart. *Journal of Economic Geography* 12, 1003−1020.

Isenberg, D. (2010). How to Start an Entrepreneurial Revolution. *Harvard Business Review* 88(6), 40−50.

Isenberg, D. (2011). The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship. Dublin: Institute of International European Affairs.

Jolkkonen, A., Koistinen, P., & Kurvinen, A. (2012). Reemployment of Displaced Workers – The Case of a Plant Closing on a Remote Region in Finland. *Nordic journal of working life studies* 2(1), 81−100.

Kanfer, R., Kantrowitz, T. M., & Wanberg, C. R. (2001). Job Search and Employment: A Personality-Motivational Analysis and Meta-Analytic Review. *Journal of Applied Psychology* 86(5), 837−855.

Kauppalehti (2017). Uros Oy. Retrieved from: https://www.kauppalehti.fi/yritykset/yritys/uros+oy/24039292. Accessed 11.2.2019.

Koen, J., Klehe, U.-C., Van Vianen, A. E. M., Zikic, J., & Nauta, A. (2010). Job-search strategies and reemployment quality: The impact of career adaptability. *Journal of Vocational Behavior* 77, 126–139.

Lappalainen, E. (2013). Nokian Bridge-ohjelma: Menestystarina yhteiskuntavastuusta? *Talouselämä*. Retrieved from: https://www.talouselama.fi/uutiset/nokian-bridge-ohjelma-menestystarina-yhteiskuntavastuusta/b85f7af5-55df-376d-a045-f2301f513108. Accessed 11.1.2019.

Lindén, C.-G. (2016). Nokian valtakunta: Raportti hulluilta vuosilta. (Finnish edition). Tallinna: Tallinna Raamatutrükikoja OÜ.

Lundmark, M. & Power, D. (2004). Working through Knowledge Pools: Labour Market Dynamics, the Transference of Knowledge and Ideas, and Industrial Clusters. *Urban Studies* 41(5/6), 1025–1044.

Maliranta, M., Mohnen, P., & Rouvinen, P. (2009). Is Inter-Firm Labor Mobility a Channel of Knowledge Spillovers? Evidence from a Linked Employer-Employee Panel. *Industrial and Corporate Change* 18(6), 1161–1191. doi:10.1093/icc/dtp031

Ministry of Economic Affairs and Employment of Finland. Äkillinen rakennemuutos (ÄRM). Retrieved from: https://tem.fi/akillinen-rakennemuutos-arm. Accessed 16.2.2019.

Mukkala, K. (2005). Knowledge spillovers – Mobility of highly educated workers within high technology sector in Finland. *University of Jyväskylä, School of Business and Economics Working Paper* 300/2005

Mäntylä, J.-M. (2017). Nokia-katastrofista uuteen nousuun – näin Oulusta kuoriutui Suomen piilaakso. *Talouselämä*. Retrieved from: https://www.talouselama.fi/uutiset/nokia-katastrofista-uuteen-nousuun-nain-

oulusta-kuoriutui-suomen-piilaakso/14894f28-7b50-30b2-9b51-5c944f2a125e. Accessed 11.1.2019.

Nokia (2017). Nokia etenee muutosohjelmassaan Suomessa pitkän aikavälin kilpailukykynsä takaamiseksi. Retrieved from: https://www.nokia.com/fi_fi/tietoa-meista/uutiset/tiedotteet/2017/05/04/nokia-etenee-muutosohjelmassaan-suomessa-pitkan-aikavalin-kilpailukykynsa-takaamiseksi/. Accessed 11.1.2019.

Nokia (2018). Nokian yhteistoimintaneuvottelut päätökseen. Retrieved from: https://www.nokia.com/fi_fi/tietoa-meista/uutiset/tiedotteet/2018/03/29/nokian-yhteistoimintaneuvottelut-paatokseen/. Accessed 1.2.2019.

Parent, R., Roy, M., & St-Jacques, D. (2007). A systems-based dynamic knowledge transfer capacity model. Journal of Knowledge Management 11(6), 81−93.

Pirskanen, A. (2012). Nokian Bridge-ohjelma auttanut työttömiksi jääneitä. *Yle Uutiset*. Retrieved from: https://yle.fi/uutiset/3-6289543. Accessed 11.1.2019.

Pitelis, C. (2012). Clusters, entrepreneurial ecosystem co-creation, and appropriability: a conceptual framework. *Industrial and Corporate Change* 21(6), 1359–1388.

Sipola, S. (2015). UNDERSTANDING GROWTH AND NON-GROWTH IN ENTREPRENEURIAL ECONOMIES: Analysis of startup industries and experimental winner generation in Finland, Israel and Silicon Valley. Tampere: Juvenes Print.

Spigel, B. & Stam, E. (2016). Entrepreneurial Ecosystems. *Utrecht School of Economics, Tjalling C. Koopmans Research Institute Discussion Paper Series* 16-13.

Spigel, B. (2017). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship Theory and Practice* 41(1). DOI: 10.1111/etap.12167

Stam, E. (2015). Entrepreneurial Ecosystems and Regional Policy: A Sympathetic Critique. *European Planning Studies* 23(9), 1759−1769.

Statistics Finland. Mikroyritys. Retrieved from: https://www.stat.fi/meta/kas/mikroyritys.html. Accessed 11.2.2019.

Sucher, S. J. & Winterberg, S. J. (2015). Nokia's Bridge Program: Outcome and Results (B). *Harvard Business School Supplement* 315-003.

Terhemaa, A. (2019). Nokian yt-neuvottelut ohi – vähentää Suomessa 280 työtehtävää. *Kauppalehti*. Available at: https://www.kauppalehti.fi/uutiset/nokian-yt-neuvottelut-ohi-vahentaa-suomessa-280-tyotehtavaa/c1a0e077-a175-4b15-8552-6a012cedf336. Accessed 15.4.2019.

Valtavaara, M. (2014). Oulun työttömyys kaksinkertaistui. Helsingin Sanomat. Retrieved from: https://www.hs.fi/talous/art-2000002753817.html. Accessed 8.2.2019.

Van Hooft, E. A. J., van Hoye, G., & Wanberg, C. R. (2012). Moving beyond job search quantity: Towards a conceptualization and self-regulatory framework of job search quality. *Organizational Psychology Review* 3(1), 3–40.

Van Hoye, G. & Saks, A. M. (2008). Job search as goal-directed behavior: Objectives and methods. *Journal of Vocational Behavior* 73, 358−367.

Wanberg, C. R. (2012). The Individual Experience of Unemployment. *Annual Review of Psychology* 63, 369–396. doi:10.1146/annurev-psych-120710-100500

Ylinenpää, H. (2009). Entrepreneurship and Innovation Systems: Towards a Development of the ERIS/IRIS Concept. *European Planning Studies* 17(8), 1153−1170.